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Can Friendship Quality, Resilience, Social Anxiety and Victimisation Predict Self-Esteem?

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Declaration

This work is original and has not been submitted in relation to any other degree or qualification.

Signed:

Date:

Acknowledgments

I cannot thank my dissertation supervisor, Professor Mike Boulton, enough, for his ongoing support and guidance throughout the project. I would also like to give thanks to my research team who have encouraged me and helped me remain positive over the duration of this experience: Rachel Kirkham, Cara Breen, Megan Burns, Justine Santos and Fern-Beth Pritchard.

Supervision Log

Date	Discussion Topics	Action Agreed
1st March 2017	Initial ideas were discussed, the areas in which people were most interested. Gained consent from each member of the group to collaborate on a group project. Administer questionnaires to school children (10-16). Agreed on bullying/victimisation, social relationships and general well-being.	Consider variables of interest to each group member. Begin to contact schools, via email.
8th March 2017	Discussed appropriate length of questionnaire, appropriate to engage children aged 10-16. Produced a list of each group member's interests, developing them into constructs. All related to bullying/victimisation, social relationships and general well-being.	Find suitable measures for the chosen constructs
15 th March 2017	Each group member had found an instrument to measure a chosen construct, this was shared with the group. Access for British Online Survey was set up. Discussed applying for ethical approval, spoke about each section and what to include.	Upload items onto British Online Survey, survey named Relationships. Begin to complete ethics form, each group member decided on a section to focus upon, to be shared at the next meeting. Begin to think about variables of interest to ourselves, literature review started.
22 nd March 2017	Shared work completed on the ethical approval form, any missing gaps filled. Short chat around which constructs each group member found interesting for their own projects.	Complete individual application for ethical approval. Focus on literature review
5 th April 2017	Group meeting to review the ethical approval form prior to submission. Any amendments decided by the group at this point were changed.	Submit application for ethical approval. Focus on literature review

10 th May 2017	Discussed reviewer's comments/recommendations on application for ethical approval	Complete ethical amendment form.
24 th May 2017	Once ethical approval gained, group can start to collect data in schools	Continue contacting schools. Begin data collection once school consent gained.
21 st June 2017	Spoke about difficulties of finding schools, encouraged to continue approaching schools via email or phone. Arranged a group meeting once data collection was complete	Data collection
12 th July 2017	Group meeting – discussed the write up of the dissertation, in-depth run through of data analysis techniques, begin to formulate hypothesis/research questions. Questions answered regarding queries at this point.	Prepare full draft of dissertation to be submitted at the beginning of September.
14 th September 2017	1 hour 10 minute phone conversation with supervisor. Going through draft comments and recommended amendments to be made.	Address amendments, ready to submit final copy by Wednesday 27 th September 2017.

Supervisee signature:

Date:

Supervisor signature:

Date:

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Abstract

Self-esteem is regarded as being fundamental for child and adolescent development. Self-esteem has been found to be at its lowest among young people and tends to fluctuate throughout adolescence. Despite this, little is known about the specific factors which may lead to a change in levels of self-esteem among youths. Current research aimed to investigate the relationship between four predictor variables (friendship quality, resilience, Social Anxiety and victimisation) and the dependent variable (self-esteem). Data was collected from school students aged between 10 and 16 years, from various schools across the United Kingdom. Students' completed an online questionnaire, responding to statements using a Likert-scale response system. Data was analysed using a multiple regression, which was used to examine whether as a collection, the predictor variables could predict self-esteem. Which was followed by a series of four hierarchical multiple regression tests. The hierarchical regression tests allowed researchers to examine the unique contribution each predictor variable made towards the variance shared with self-esteem. Social Anxiety was found to be the most important unique predictor of self-esteem, accounting for 6% of the variance. It was therefore highlighted that Social Anxiety should be the first factor schools consider in their attempts to increase student levels of self-esteem. Intervention needs to be tailored towards individual needs. Future research should include moderation analyses in order to examine the relationship between the predictor variables and dependent variable (for example, age and gender).

Introduction

Self-esteem is documented as a fundamental part of an individual's development (Valkenburg, Koutamanis & Vossen, 2017), which has been found to fluctuate more so, from childhood through to adolescence (Bos, Muris, Mulken & Schaalma, 2006; Valkenburg, Koutamanis & Vossen, 2017). Low self-esteem is related to poor achievement in school (Mann, Hosman, Schaalma & De Vries, 2004; Humphrey, 2004), problems regarding social relationships (Kingery, Erdley & Marshall, 2011; Birkeland, Breivik & Wold, 2014) and can lead to developing problems with anxiety and depression (Orth, Robins & Roberts, 2008; Moksnes, Moljord, Espnes & Byrne, 2010; De Jong, Sportel, De Hullu & Nauta, 2012; Sowislo & Orth, 2013). In summary, the study will investigate whether the independent variables – friendship quality, resilience, Social Anxiety and victimisation – can predict the dependent variable that is self-esteem. The author begins by introducing each of the variables separately, documenting the relationship found between self-esteem and predictor variables within existing literature. The research questions are presented, followed by a section which comments on testing the psychometric properties of scales, thus completing the introduction. In the subsequent section, the methodology will be documented, which includes information on participants, the chosen measures and the procedure. Results are documented, followed by an in depth discussion and evaluation of the findings, practical implications and future recommendations.

Self-esteem

Previous theory puts forward the idea that self-esteem can be determined by belonging to a social group (Tajfel & Turner, 1979). To increase self-image, people often categorise others and put them into groups, usually classed as an 'in group' and

'out group'. This means individuals make comparisons of themselves to others, which in addition can lead to stereotyping and prejudice. The Cambridge Dictionary (2017) defines stereotyping as 'a set idea that people have about what someone or something is like, especially an idea that is wrong'. It also defines prejudice as 'an unfair and unreasonable opinion or feeling, especially when formed without enough thought or knowledge' (Cambridge Dictionary, 2017). Considering the definitions, linked with ways an individual's self-esteem can be influenced, it leaves to debate that the opinion of others, more so negative opinions, can have a detrimental effect on the individual (Heatherton & Polivy, 1991; Tafari & Milne, 2002; Thomaes, Reijntjes, Orobio de Castro, Bushman, Poorthuis & Telch, 2010). This detrimental effect may alter the way an individual views and/or feels about themselves, in turn lowering their self-esteem; given this issue it provides rationale to investigate this area further.

A lack of consensus between researchers with regards to a definition for self-esteem is frequently noted (Tafari & Milne, 2002). Early definitions document that self-esteem is comprised of two separate entities: 'self-competence' and 'self-liking' (Tafari & Swann Jr, 1995; Tafari & Milne, 2002). Vignoles Regalia, Manzi, Golledge & Scabini (2006) found that individuals commonly endeavour to maintain and enhance these entities. The value one has of themselves based on what they can do and how they believe they appear, to both themselves and others is a commonality shared by researchers when defining self-esteem (Heatherton & Polivy, 1991; Tafari & Swann Jr, 1995; Tafari & Milne, 2002; Thomaes et al, 2010). State Self-Esteem refers to how individuals feel about their self-worth at the present moment (Heatherton & Polivy, 1991; Thomaes et al, 2010). However, there is potential for a problem to arise, as state self-esteem could lead to measuring an individual's mood rather than their self-esteem. Heatherton and Polivy (1991) believed this was due to a lack of an 'appropriate measuring instrument'. They devised a 20-item scale (State Self-Esteem

Scale; SSES) set to measure three factors of self-esteem: performance self-esteem, social self-esteem and appearance self-esteem (Heatherton & Polivy, 1991). Further developing the measure for state self-esteem was Thomaes and colleagues (2010) who conducted a study using the SSES. They investigated whether peer approval or disapproval affected state self-esteem in children and found that indeed, acceptance by peers improved self-esteem (Thomaes et al, 2010).

Along with Heatherton and Polivy (1991) and Thomaes et al (2010) as previously discussed, a heavily influential account of self-esteem was proposed by Morris Rosenberg (1965). The Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965) is an instrument widely used within existing psychological and sociological research. It encompasses 10 items measuring both positive and negative feelings of ones-self with the aim to create a unidimensional scale, which measures the construct self-esteem. Marsh, Scalas and Nagengast (2010) support that the RSES is unidimensional, as when conducting work with a large sample set, one construct was found; self-esteem. Further support can be found from the work by Huang and Dong (2012). The way in which self-esteem is measured is arguably subjective as it is based on the researcher's ideal outcome of study and what facets of self-esteem they wish to examine. Initially the researcher chose which items to include in their scales, a method adopted by current researcher. This subjectivity can also dictate which definition researchers choose to adopt for defining self-esteem in their study. Thus, further adding to the debate surrounding the disagreement of a universal definition of self-esteem.

It is considered crucial to add to the vast amount of literature which already exists surrounding the concept of self-esteem. This is due to the detrimental effect it can have on child and adolescent development, as mentioned previously, academic achievement, social functioning and can lead to the development of mental health

problems (Mann, Hosman, Schaalma & De Vries, 2004; Orth, Robins & Roberts, 2008; Moksnes, Moljord, Espnes & Byrne, 2010; Kingery, Erdley & Marshall, 2011; De Jong et al, 2012; Sowislo & Orth, 2013; Birkeland, Breivik & Wold, 2014). Youth's that suffer with low self-esteem sometimes end up having a poorer quality of life during adulthood, often reducing their opportunities and prospects (Trzesniewski, Donnellan, Moffitt, Robins, Poulton & Caspi, 2006). Low self-esteem predicts involvement in criminal behaviour and poor health in adolescence (Donnellan, Trzesniewski, Robins, Moffitt & Caspi, 2005; Trzesniewski, Donnellan, Moffitt, Robins, Poulton & Telch, 2006).

Furthermore, a gap within existing literature was recognised by Chung, Hutteman, Aken and Denissen (2017) whereby self-esteem studies to date are limited – mainly examining changes to self-esteem between adolescence through to old age. Chung and colleagues (2017) attempted to address the gap within current literature, by focusing primarily upon the changes to self-esteem from childhood through to adolescence. For this reason it was important that the developmental and transition stage of childhood through to adolescence, was also the main focus of the current project. Not only will the gap be addressed with regards to developmental stages but it will be conducted within the United Kingdom, unlike Chung et al (2017) who conducted research with a German sample. In future, the findings from the current study mean that comparative studies could be conducted. Chung et al (2017) found that self-esteem was low during childhood, which on reflection is not surprising as self-esteem is documented as only beginning to emerge at this point (Robins & Trzesniewski, 2005). However, during middle childhood self-esteem was documented as high, closely followed by a decline as self-esteem during adolescence was found to be low (Chung et al, 2017). Again, this does not come as a shock to the researcher as young people go through a number of changes during the adolescent stage of development, for example puberty, which could result in lower self-esteem related to body image

(especially for girls) (Furnham, Badmin & Sneade, 2002). Puberty causes changes to the body which often leads to young people becoming their own self critics.

Considering the work by Chung et al (2017) is the first to examine self-esteem trajectory between childhood and adolescence using a longitudinal method, researchers hope that current findings will add to ever-expanding literature, which surrounds the concept of self-esteem. This at present, has been found to be limited, as discussed previously.

Friendship Quality as a unique predictor of Self-Esteem

A predictor variable is a variable that is of interest to a researcher. Predictors are essentially used to predict the dependent variable (the variable chosen to be measured) (Petrocelli, 2003; Field, 2009). A unique predictor is determined by how much of the dependent variable it can uniquely predict, in other words, how much of the dependent variable the predictor can predict alone or separate from the other predictor variables (Petrocelli, 2003; Field, 2009). Each predictor can share variance with not only the dependent variable, but also the other predictor variables, meaning to some degree the variables will overlap (Field, 2009). Researchers can control the entry of each variable into the regression model, which allows the amount of variance to be found. This is an important analysis technique for psychological research as it allows experts to determine the most important contributing variable to the construct being measured, thus providing a greater understanding of the underlying causes for the construct of interest (Petrocelli, 2003; Field, 2009). Rationale for the current study is provided, firstly, as a hierarchical regression analysis has not been conducted using the chosen variables (self-esteem, Social Anxiety, resilience, victimisation and friendship quality), therefore addressing the gap within existing literature. Secondly, for educators, the findings could provide an important insight into the factors that contribute to, and influence, student's levels of self-esteem. Researchers are hopeful

that with the findings, interventions can be tailored to suit young people throughout their development and transition stages.

A friend is defined as 'a person who you know well and who you like a lot, but who is usually not a member of your family' (Cambridge Dictionary, 2017). A friendship is often characterised by the relationship you have with your peers and friends. Psychological research fails to present a solid definition of friendship, which may be due to the amount of factors which overlap within the construct of friendship (Parker & Asher, 1993). Early studies have suggested well-being amongst children is dependent upon high quality friendships, with one of the milestones of childhood being able to socialise with peers (Brizio, Gabbatore, Tirassa & Bosco, 2015). Friendships are deemed a vital part of childhood development (Parker & Asher, 1993; Berndt, 2002) and have been found to differ in quality (Hiatt, Laursen, Mooney & Rubin, 2015). Bowker (2004), found that many friendships within adolescence - even up to 50% of friendships - don't last into the next academic year. Contradictory to this, Hiatt and colleagues (2015) used both self-report and partner-report methods to reach the conclusion that 90% of high quality friendships did in fact last across academic years. However, stated that within the participant data set, of the friendship qualities that were reported, a small amount were of high quality (Hiatt et al, 2015). Many children are in agreement with adults and state that friendship is important to them (Hartup & Stevens, 1997; Berndt, 2002). 'A high-quality friendship is characterized by high levels of prosocial behavior, intimacy, and other positive features, and low levels of conflicts, rivalry, and other negative features' (Berndt, 2002).

Additional research suggests that it is not necessarily the friendship that is important but more so the quality of those friendships (Hodges, Boivin, Vitaro & Bukowski, 1999). Having high quality friendships has been highlighted as a buffer against low levels of self-worth (Waldrip, Malcolm & Jensen-Campbell, 2008; Laursen,

Furman, & Mooney, 2006), the likelihood of being bullied (Bollmer, Milich, Harris & Maras, 2005), and also influencing depression and loneliness (Nangle, Erdley, Newman, Mason & Carpenter, 2003). Moreover, self-esteem has been found to be influenced by the quality of friendships (Parker & Asher, 1993; Berndt & Keefe, 1995; Kingery, Erdley & Marshall, 2011). Poor quality friendships can contribute towards a decline in self-esteem amongst children transitioning from early education onwards (Kingery, Erdley & Marshall, 2011). Similarly, peer rejection has been documented to have a negative impact on self-esteem (Jiang, Zhang, Ke, Hawk & Qiu, 2015).

On the other hand, some research states that positive friendships can lead to higher levels of self-esteem (Berndt & Keefe, 1995) and that reciprocated encouragement and praise from peers can positively influence self-esteem (Berndt & Keefe, 1995). A meta-analysis of research regarding self-esteem and peer attachment found that positive relationships improved levels of self-esteem (Gorrese & Ruggieri, 2013); additional support can be found from Laible, Carlo and Roesch (2004) and, Mota and Matos (2013). Similar cases were also found when comparing children who had been maltreated with those who had not (Bolger, Patterson & Kupersmidt, 1998). Bolger et al (1998) conducted a longitudinal study consisting of 107 maltreated children and 107 non-maltreated children. Findings implied that the self-esteem of individuals who had a good friend could be improved over time. Hartup and Stevens (1997) however, identify a problem with the sparsity of longitudinal research within the area of friendship quality and self-esteem.

Moving forward, friendship quality has been established as being able to predict self-esteem (Kingery, Erdley & Marshall, 2011). It was claimed that after the transition into higher education, self-esteem levels among the students increased (Kingery, Erdley & Marshall, 2011). Likewise, Parker and Asher (1993), used the Friendship Quality scale within their research which consisted of 40 items. They acknowledged

that the degree of companionship could be measured, but was a factor that overlapped with others, such as conflict. All factors were found to contribute towards the main construct of friendship quality. The Cronbach alpha statistic was .77, revealing that this scale had good internal consistency (Parker & Asher, 1993).

Over the past decade, research has failed to specifically investigate the role friendship quality plays in predicting levels of self-esteem. A majority of the work focuses upon the transition and adjustment period into higher education and explains the importance of having good quality friendships during this period of time (Wigfield, Eccles, Mac Iver, Reuman & Midgley, 1991; Hartup & Stevens, 1999; Aikins, Bierman & Parker, 2005; Kingery, Erdley & Marshall, 2011). For this reason, the current study aims to consider whether friendship quality alone can uniquely predict levels of self-esteem in school aged children.

Resilience as a unique predictor of Self-Esteem

In order to provide support for individuals who are aiming to improve their resilience, a review of definitions was produced. Herrman, Stewart, Diaz-Granados, Berger, Jackson and Yuen (2011) examined definitions proposed between 2006 and 2010 and came to the conclusion that resilience 'refers to positive adaptation, or the ability to maintain or regain mental health, despite experiencing adversity' (Herrman et al, 2011). Early concepts suggest that 'experience of adversity or stress' and 'achievement of positive outcomes' need to be included in order to define resilience (Gartland, Bond, Olsson, Buzwell & Sawyer, 2011). Definitions are ever evolving; researchers believe that defining resilience is based on the source of resilience rather than the individuals themselves (Wald, Taylor, Asmundson, Jang & Stapleton, 2006; Fleming & Ledogar, 2008; Herrman et al, 2011). These sources may involve personal, biological or system factors, or be a combination of the three (Herrman et al, 2011). It is therefore important to understand that, the process of resilience can often be mistaken

as normal for child and adolescent development, thus being overlooked as being able to cause problems for the individual (Masten, 2001). Moving forward, Gartland et al (2011) are hopeful that producing a solid definition within current research may result in better measurement of resilience in future.

Defining resilience specifically for children and adolescents 'involves children displaying competent functioning despite exposure to high levels of risk or adversity' (Hunter, 2012). A cross-sectional survey design was used by Tusaie, Puskar and Sereika (2007), to examine the predictors of resilience in 624 adolescents. They found that family support, optimism, negative events in life as well as age and gender could predict resilience (Tusaie et al, 2007). Adding to this, they also found that peer support and optimism could alter levels of resilience in adolescents (Tusaie et al, 2007).

Current measures for resilience are limited (Jew, Green & Kroger, 1999; Hjemdal, Friborg, Stiles, Martinussen & Rosenvinge, 2006), whereby resilience is measured as an individual characteristic when in fact it is a multidimensional construct (Luthar, Doernberger & Zigler, 1993). Therefore, it is vital to explore the construct of resilience further. Gartland and colleagues (2011) administer the Adolescent Resilience Questionnaire, which consists of five domains: individual, family, peers, school and community. Higher scores are an indication of greater resilience. The Connor-Davidson Resilience scale, is also used to measure resilience (Connor & Davidson, 2003). A revised version consisting of 10 items (see Appendix A), produced sound psychometric properties (Campbell-Sills & Stein, 2007). The Cronbach's alpha value was .85, indicating good reliability; analyses also found the scale to have good construct validity (Campbell-Sills & Stein, 2007).

For the individual, self-esteem and resilience have been found to be related (Masten & Coatsworth, 1998; Kumpfer, 2002). More work from Kidd and Shahar (2008) document that the variable of self-esteem acted as a buffer against loneliness and was

the only reliable variable in relation to resilience. Whilst examining existing literature in the area of resilience as a unique predictor of self-esteem, it has proved limited. A majority of work considers select populations, such as those with mental health problems (for example Schizophrenia) (Hofer, Mizuno, Frajo-Apor, Kemmler, Suzuki, Pardeller & Fleischhacker, 2016; Rossi, Galderisi, Rocca, Bertolino, Rucci, Gibertoni & Amodeo, 2017) high risk behaviours (Veselska, Geckova, Orosova, Gajdosova, van Dijk & Reijneveld, 2009) and homeless individuals (Kidd, 2006), leaving open a gap to be filled. Therefore, the current project aims to focus on children/adolescents aged 10 - 16 years, with the hope that this will allow for findings to be generalised to the population, further adding to current literature.

Social Anxiety as a unique predictor of Self-Esteem

Social Anxiety is one of the most common psychological conditions in adults, adolescents and even children (The National Health Service (NHS) 2017; National Institute for Health and Clinical Excellence (NICE) 2017). Also known as 'social phobia', defined by the National Health Service as 'a long lasting and overwhelming fear of social situations'. Definitions of Social Anxiety Disorder can be found within The Diagnostic and Statistical Manual of Mental Disorders (5th ed.; DSM-5; American Psychiatric Association, 2013). Social Anxiety symptoms usually begin during adolescence (NHS, 2017) sometimes the onset can be as early as 13 years (NICE, 2017). In children and teenagers suffering from Social Anxiety, the symptoms they may display are as follows: frequent episodes of crying and tantrums, interaction avoidance with others, reluctance to participate in school activities, as well as difficulty in asking for help, they may also be over reliant on primary caregivers (NHS, 2017). Individuals that suffer from higher Social Anxiety are found to also have lower levels of self-esteem (NHS, 2017).

Of those who suffer from Social Anxiety, 19% also suffer from depression, raising issues of comorbidity (NICE, 2017). Comorbidity, is when more than one disorder presents at the same time as another e.g. Social Anxiety and Depression (NHS, 2017). For some, difficulties with social phobia can be a lifelong issue, with individuals often ignoring symptoms for at least fifteen years before seeking professional help and advice (NHS, 2017; NICE, 2017). Although a common disorder, a higher proportion of women than men suffer from Social Anxiety (NICE, 2017). There have been some concerns within clinical and educational settings with regards to misdiagnosis. The reasons for this being the difficulty in recognising the symptoms of Social Anxiety (NICE, 2017). In school aged children this can lead to; bullying, leaving school and poor academic performance (NICE, 2017). Social Anxiety can be treated using, psychotherapy (Cognitive Behavioural Therapy) along with psychopharmacology, in both individual and/or group sessions (Kashdan & Herbert, 2001).

Social Anxiety in children and adolescents is frequently measured using the Revised Children's Manifest Anxiety Scale (RCMAS; Reynolds & Richmond, 1978; 1985). It uses a self-report method and aims to measure the anxiety in children and adolescents aged 6 to 19 years old. This scale consists of 3 subscales: worry/oversensitivity, physiological anxiety and social concerns/concentration. Participants respond to the items using yes or no options, higher scores indicate greater Social Anxiety. The reliability for the total score was .92, and for subscales reliability ranged between .75 and .85. Validity data using this scale is sparse, however, more recently Chorpita, Moffitt and Gray (2005) document good validity for use of the scale with 513 children and adolescents (Mean age = 12.9 years). They also found sound psychometric properties for internal consistency ranging from .78 to .88 (Chorpita et al, 2005).

Cross-sectional studies have found that higher levels of Social Anxiety are observed when individuals have low self-esteem (Moksnes, Moljord, Espnes & Byrne, 2010; De Jong, Sportel, De Hullu & Nauta, 2012). Those that present with symptoms of Social Anxiety have also been found to provide 'negative self-statements', thus indicating lower levels of self-esteem (De Jong et al, 2012). Moreover, the self-esteem of socially anxious children is reported as being lower than those who do not suffer from Social Anxiety (Ginsburg, La Greca & Silverman, 1998). A meta-analysis highlights that the relationship between self-esteem and Social Anxiety is balanced (Sowislo & Orth, 2013). In other words, self-esteem can predict Social Anxiety ($\beta = -.10$) as well as Social Anxiety predicting self-esteem ($\beta = -.08$) (Sowislo & Orth, 2013). From a clinical perspective, Roberts (2006) states that there is little known about the relationship between Social Anxiety and self-esteem. Sowislo and Orth (2013) propose that the relationship between self-esteem and Social Anxiety can be flipped, assumptions for this idea are made due to research that suggests self-esteem can predict changes in levels of Social Anxiety. Moreover, when an individual experiences Social Anxiety, it may lead to changes and reduction in their levels of self-esteem (Sowislo & Orth, 2013). Recently, longitudinal work conducted by Van Tuijl, De Jong, Sportel, De Hullu and Nauta (2014) found that 'explicit self-esteem'; whereby individuals reflect on the evaluation of themselves, was related to Social Anxiety disorder. The current study aims to examine whether Social Anxiety can predict self-esteem, with the hope that findings coincide with results found previously (Moksnes et al, 2010; De Jong et al, 2012; Sowislo & Orth, 2013; Van Tuijl et al, 2014). Based on the work presented, rationale is provided as findings from the current study aim to gain similar results, which would be that Social Anxiety could predict self-esteem (Moksnes et al, 2010; De Jong et al, 2012; Sowislo & Orth, 2013; Van Tuijl et al, 2014).

Victimisation as a unique predictor of Self-Esteem

The final predictor to be examined within the current study will be peer victimisation. The area of both victimisation and bullying are extensively studied and therefore solid definitions have been established. The Government (2017) define bullying as 'behaviour that is: repeated, intended to hurt someone either physically or emotionally, often aimed at certain groups...It takes many forms and can include: physical assault, teasing, making threats, name calling, cyberbullying - bullying via mobile phone or online' (GOV.UK, 2017). Physical and non-physical (mental, verbal etc.) aggression and harassment are forms of peer victimisation, whereby peers are the causes of such behaviour (Hirschtritt, Ordóñez, Rico & LeWinn, 2015). During adolescence bullying is a frequently occurring problem (Hirschtritt et al, 2015). Research suggests that it is highly likely for young people to become subject to peer victimisation (Boulton & Smith, 1994; Dake, Price & Telljohann, 2003). In a recent Spanish study, over 60% of children who took part had said they had been a victim of traditional bullying (Sánchez, Romero, Navarro-Zaragoza, Ruiz-Cabello, Frantzisko & Maldonado, 2016).

For the recipient, victimisation can have a detrimental effect, often being the cause of long term problems (Smith, Madsen & Moody, 1999; Grills & Ollendick, 2002; Patchin & Hinduja, 2006) - especially when it happens for a continuous amount of time (Olweus, 1993; Solberg & Olweus, 2003). The negative effects of peer victimisation for the recipient may include, feeling lonely, depressed, insecure, anxious and angry (Fröjd, Kaltiala-Heino & Marttunen, 2010; Baker & Tanrikulu, 2010). Lowered self-esteem, Social Anxiety and suicidal thoughts are becoming a greater burden for recipients of bullying, thus having a damaging effect on the child's development (Craig, 1998; Salmon, James & Smith, 1998; Smith, Madsen & Moody, 1999; Nansel, Overpeck, Pilla, Ruan, Simons-Morton & Scheidt, 2001; Grills & Ollendick, 2002; Hinduja & Patchin, 2010). The problem of low self-esteem, high Social Anxiety and

suicidal thinking can also carry on into adulthood (Austin & Joseph, 1996; Fröjd, Kaltiala-Heino & Marttunen, 2010). Furthermore, an individual that is subject to peer victimisation is likely to have lower levels of self-esteem. Finding a negative association between the two variables (Social Anxiety and self-esteem) was Tsousis (2016), who provided a meta-analytic review.

The researcher of this study believed a more thorough examination of the relationship between self-esteem and peer victimisation was needed, given the overwhelming amount of research that depicts victimisation, more so the negative implications of bullying for the recipients. With the findings, researchers are hopeful that by improving the self-esteem of children and adolescents will help towards diminishing bullying behaviours and peer victimisation in future. The optimism to decrease bullying behaviour is touched on by researchers due to copious amounts of research suggesting that those who bully (along with victims) suffer from differing levels of self-esteem (Baumeister, Smart & Boden, 1996) as well as those individuals who fall under different subtypes of self-esteem (Salmivalli, Kaukiainen, Kaistaniemi & Lagerspetz, 1999). Which in turn would optimistically lead to less young people being victimised in schools.

Victimisation is measured using the Self-report Victimisation Scale (Boulton, Trueman & Murray, 2008). The scale aims to assess, traditional bullying (verbal and physical), cyberbullying and accidental bullying, whereby participants respond to whether they felt someone didn't really mean to be nasty to them. Hulse (2008), suggests there are limitations to bullying and victimisation research, as tests for psychometric properties of the scales are rarely reported. This meaning that researchers are left assuming reliability and validity criteria may, or may not, have been satisfied (Hulse, 2008). Hulse (2008) found moderate reliability when the scale was used with school aged children, however found that reliability was lower when

administered to younger elementary (primary) aged children; thus suggesting the instrument may be more reliable when administering among older children (Hulsey, 2008). A rationale for the current study forms in relation to providing evidence of the psychometric tests. The psychometric properties for all scales will be tested and will be documented throughout the report. Initially a discussion of chosen testing methods (reliability and validity) will ensue the research questions. Results of tests will be documented later in the report.

A relationship between each of the predictor variables and self-esteem has been found within existing literature, however research considering the direction of association is limited, thus leaving an emergent gap. For this reason, the current study aims to use hierarchical regression analyses to examine whether friendship quality, resilience, Social Anxiety and victimisation can predict levels of self-esteem in school aged children (10 -16 years). The research questions to be answered are as follows.

Research Questions

An evident gap within existing literature has been documented, as discussed earlier. Whereby the method of hierarchical multiple regression has not been used to examine whether the predictor variables (Friendship quality, Resilience, Social Anxiety and Victimization) could predict self-esteem. However based on the copious amount of work conducted within the area of self-esteem, it is apparent that there is a relationship between each of the variables, thus leading to the formulation of research questions 1 and 2 (Parker & Asher, 1993; Berndt & Keefe, 1995; Craig, 1998; Salmon, James & Smith, 1998; Smith, Madsen & Moody, 1999; Nansel et al, 2001; Grills & Ollendick, 2002; Laursen, Furman, & Mooney, 2006; Waldrup, Malcolm & Jensen-Campbell, 2008; Hinduja & Patchin, 2010; Moksnes et al, 2010; Kingery, Erdley & Marshall, 2011; De Jong et al, 2012; Tsaousis, 2016).

Research Question 1: Using a standard multiple regression can the predictor variables (Friendship quality, Resilience, Social Anxiety and Victimisation) collectively account for the dependent variable (self-esteem)?

Research Question 2: If so, how much of the variance can they collectively account for?

Research Question 3: Using a hierarchical multiple regression can each of the predictor variables uniquely predict self-esteem?

Research Question 4: If so, how much of the variance is unique to each predictor?

Based on the work conducted by Kingery, Erdley and Marshall (2011) who found that low levels of self-esteem were a result of poor quality friendships, friendship quality could uniquely predict self-esteem. High friendship quality is considered a buffer against low levels of self-esteem (Laursen, Furman, & Mooney, 2006; Waldrup, Malcolm & Jensen-Campbell, 2008). Resilience may also uniquely predict some of the variance of self-esteem in children and adolescents taking part in the current study. This assumption is based on the work from Masten and Coatsworth (1998) as well as Kumpfer (2002), who found an association between resilience and self-esteem. A balanced relationship between Social Anxiety and self-esteem has been highlighted by Sowislo and Orth (2013), whereby Social Anxiety has been found to predict self-esteem and self-esteem has been found to predict Social Anxiety, thus providing rationale to believe that a similar relationship could be found in the current study. A large amount of literature suggests that being subject to victimisation can lead to lowered self-esteem (Smith, Madsen & Moody, 1999; Nansel et al, 2001; Grills & Ollendick, 2002; Hinduja & Patchin, 2010; Tsaoasis, 2016). Therefore, it is assumed

that findings from the current study will present similar associations, whereby victimisation could uniquely predict self-esteem.

Testing Psychometric properties

Defining a construct has been deemed important in order to establish a valid and reliable scale (Tokunaga, 2010). Research expresses concern towards the absence of a concrete definition (Tokunaga, 2010); some feel that it is possible that more than one construct could be measured (Tokunaga, 2010), which consequently may lead to errors or flawed results (DeVellis, 2016). In contrast, others believe the absence of a universal definition may have a negative impact on researcher confidence (Tokunaga, 2010). In order for a measure to have sound reliability it needs to be repeatable. In other words, researchers must produce test results consistent with the original scale (Field, 2009). There are two common ways in which reliability can be tested. The first method known as 'test retest' is when an instrument is administered on two separate occasions (Field, 2009). Ideally, both sets of results would correlate highly (Field, 2009; Pallant, 2013). One administration of the instrument is needed to test the internal consistency of a scale (Field, 2009; Pallant, 2013). Therefore, this method was adopted by the researchers as it proved beneficial due to the short timescale given to complete the project (DeVellis, 2016). The most frequently used method to employ is the consideration of the Cronbach alpha statistic (Pallant, 2013). Pallant (2013) proposes that the Cronbach alpha needs to reach .7 for reliability criteria to be satisfied (Cortina, 1993; Gliem & Gliem, 2003; Tavakol & Dennick, 2010).

It has been identified that the Cronbach alpha statistic needs to be high between the dependent variable and independent variables, most researchers appear

in agreement (Cortina, 1993; Gliem & Gliem, 2003; Tavakol & Dennick, 2010; Pallant, 2013). Despite this, research indicates a problem of multicollinearity may arise if the correlation value exceeds .9 (Pallant, 2013). Multicollinearity is when the correlation between the predictive variables is too high (Pallant, 2013; Yoo, Mayberry, Bae, Singh, He & Lillard Jr, 2014). When the variables are highly correlated then it is assumed that the variables are going after the same variance, thus indicating a redundancy of items and adding no value to the regression model (Streiner, 2003; Yoo et al, 2014). Therefore, it is crucial that researchers examine each item (if the variables are highly correlated) and consider whether they need to be retained. In order to produce a good regression model, problems with multicollinearity need to be resolved (Pallant, 2013). Multicollinearity assumptions will be examined in relation to the current study (Refer to Results section).

Validity will be tested using principle components analysis (PCA). PCA assesses the main factors in the scale, in terms of the variance shared between items (Field, 2009; Pallant, 2013). First, to determine the number of 'important factors', factor extraction takes place. Conflicting arguments discuss how the criteria is determined (Kaiser, 1960; Cattell, 1966). Together they put forward the idea that for a factor to be recognised as important it must exceed the eigenvalue of 1 (Kaiser, 1960; Cattell, 1966), the higher the eigenvalue the better. Using a Scree plot, main factors are determined by looking to the left of the 'point of inflection' - the first main break in the slope (Cattell, 1966). The results however, could potentially lead to interpretations that are uncertain and unclear, as it is the researcher's decision to choose their preferred method of factor extraction (Lesdema, Valero-Mora & Macbeth, 2015). Kaiser's (1960) criterion suggests that we should consider any value above 1 in an attempt to offer a numerical solution. Again, this is subject to each researcher who may estimate

(sometimes inaccurately) or select the option which best suits their desired outcome of the research.

Factor loadings are defined by how much each factor/item contributes towards the main construct, higher factor loadings indicate good construct validity (Stevens, 2002; Field, 2009). To clarify, if factor loading values are high, then it suggests that the items in the scale are contributing to measure one main concept. The main constructs to be examined within the current study include: Self-esteem, Social Anxiety, friendship quality, resilience and victimisation.

Results of the psychometric property tests will ensue the tests of assumptions. Researchers believe that it is important to produce a scale that has sound psychometric properties in order for the scales to be used by future researchers. Because of the importance of such testing (Field, 2009; Pallant, 2013), the current study will test the internal consistency and construct validity, this will be documented in the latter half of the report (Refer to Results). Once the tests for reliability and validity of the generated scales have been passed, regression tests can take place. Researchers can then collapse the responses into one summated score for each scale.

Method

Participants

In total, there were 653 participants (280 males, 327 females and 46 preferred not to state their gender). Individuals partaking in the study attended mainstreams schools within the North West of England and Wales and were aged between 10 and 16. Students ($N = 493$) were aged 12, 13 or 14 years with the remaining 152 aged either 10, 11, 15 or 16 years. Among those numbers 8 participants did not state their age. A convenience sampling method was adopted in order to select participants, this was mainly due to time constraints of the project. However, this method also had other benefits, including savings on travel time and travel expenses, as researchers were able to select schools within close proximity to their homes. Along with being cost efficient in terms of the lack of external funding for the project.

Measures

For the purpose of the study, each scale contained a variable which was of interest to the researcher, and so the items chosen reflected the best way to measure these particular variables. For a full version of the questionnaire refer to Appendix A. Psychometric properties for the scales used within the current study will be tested and outcomes of these will be reported as part of the results section.

State Self-Esteem Scale

State Self-Esteem was measured using a 6-item measure of individuals overall self-worth at the present moment (Rosenberg, 1965; Thomaes et al, 2010). This measure asked participants to respond to each statement using a 4-point Likert scale, this was scored as follows; 0 = Never, 1 = Not very often, 2 = Sometimes, 3 = Lots of times. When generating the scale researchers chose to include reverse-marked

questions. Both positively 'I am proud of myself right now' and negatively 'I am disappointed in myself right now' worded items were used. This meant that prior to testing items needed to be recoded, these included item 2, 4 and 6. A high score indicated higher state self-esteem.

Self-report Victimisation Scale

The Self-report Victimisation scale assessed traditional bullying, cyber bullying and accidental bullying consisting of 8 items (Boulton, Trueman & Murray, 2008). Items 1-4 asked participants about traditional bullying whereas items 5-8 asked participants about accidental bullying. Researchers chose to ask students how often in the last year they had been victimised. Examples of the items include 'How often in the last year has another child hit and kicked you to make you feel bad?' and 'How often in the last year has another child called you nasty names and you felt bad but they didn't really mean to be nasty to you?' Again, a Likert response scale was used, participants were asked to choose a statement that best fit their experiences of victimisation; 0 = Never, 1 = Not very often, 2 = Sometimes, 3 = Lots of times. No items needed to be recoded and a high score was indicative of participants being subject to a higher amount of bullying over the past year.

Connor-Davidson Resilience Scale

Researchers selected a concise version of the Connor-Davidson Resilience scale in order to measure the resilience of their participants (Connor & Davidson, 2003). This consisted of a 10-item scale with example items including 'I am able to adapt to change' and 'I try to see the humorous side of problems'. For this scale a 5-point Likert scale was chosen, participants would respond to the degree to which they agreed with each item. Likert scale scoring is as follows; 0 = Not true at all, 1 = Rarely true, 2 = True sometimes, 3 = True often and 4 = True all the time. Items from

this scale did not need to be recoded before analysis tests took place and so higher scores indicated that participants had higher resilience.

Friendship Quality Scale

Researchers chose to use only the companionship (items 1-4) and conflict (items 5-8) subsections of the original Friendship Quality scale (Bukowski, Hoza & Boivin, 1994). Examples of the questions include 'My friend and I spend all our free time together' and 'I can get into fights with my friend'. This instrument used a 4-point Likert scale in order for participants to respond to each item; 0 = Never, 1 = Not very often, 2 = Sometimes, 3 = Lots of times. Before regression tests could go ahead items 5, 6, 7 and 8 needed to be recoded, this was so high scores would specify that participants had better friendship quality.

Social Anxiety - Revised Children's Manifest Anxiety Scale

A widely used measure for anxiety will be taken for use within the current study (Reynolds & Richmond, 1985). Researchers chose to measure Social Anxiety using the sub-scales 'social concerns and concentration' taken from the Revised Children's Manifest Anxiety Scale (RCMAS). In order for the scale outcome to reflect high Social Anxiety, all items of the scale needed to be recoded, thus meaning a higher score indicated higher Social Anxiety. Similarly a 4-point Likert scale was used for participants to agree/disagree to items presented, this differs from the yes/no responses offered in the original scale. The scoring is as follows; 0 = Totally true for me, 1 = Quite a lot true for me, 2 = Only a bit true for me and 3 = Not at all true for me. An item selected as an example 'I feel that others do not like the way I do things'.

Data sets were exported from the British Online Survey into IBM SPSS statistical package, version 23.0. Using IBM SPSS statistics 23.0 a series of analysis

tests were run and are discussed further into the report. For full SPSS output and original data set see Appendix H.

Procedure

Design

The study employed a cross-sectional survey design; the researchers observed the participants while they completed the online questionnaire. Data was analysed from a representative population, for the current study this was school children aged between 10 – 16 at a time agreed between the researcher and the school. This design was chosen due to its time saving capacity (Mann, 2003). Researchers were able to observe participants in order to minimise the copying of peers (Levin, 2006).

Data collection

Multiple researchers chose items from previously used valid and reliable scales (refer to Measures section). The items selected were combined to form a questionnaire, which was posted on Bristol Online Survey (see Appendix A), this was named 'Social Relationships'. Ethics were submitted through, and approved by the University of Chester Psychology department ethics committee, ethics adhered to British Psychological Society guidelines (see Appendix F and G). Contact was made with head teachers of both primary and secondary schools via email and/or telephone (see Appendix C). Recruitment of participants was determined by the decision of the head teacher to provide consent on their behalf. Once consent was given, researchers were able to enter the schools. Students who were present on the day of questionnaire administration could then choose whether or not they wished to take part. Access to computer facilities was arranged by the school, and after consent was obtained researchers were allowed to enter the school.

Each computer was set up with the webpage provided, showing the information sheet, which students were asked to read prior to completing the online questionnaire (See Appendix B). This information sheet highlighted the aims of the study and also addressed ethical requirements. The questionnaire consisted of the chosen items from each scale, as stated in the measures, for the full questionnaire see Appendix A. As students were completing the self-report questionnaire online, their answers could not be seen by peers, thus answers could be completed honestly. No identifiable information was taken from the students, upholding their confidentiality. Bristol Online Survey is password protected which only the researchers had access to. Taking basic demographic information ensured anonymity of the participants was maintained. If the students had any questions or needed clarification then they were allowed to put their hand up throughout the questionnaire.

Upon completion of the questionnaire, participant data sets were automatically given a number by Bristol Online Survey and identities were not known to external parties or to the researchers themselves, thus taking away their right to withdraw after completion of the questionnaire. The terms of their right to withdraw was documented in the information sheet prior to beginning the questionnaire. If pupils did not wish to take part then they carried on with classwork or left the room, they also did not have to submit their responses if they did not wish. There was no time limit given, however it took approximately 20 minutes to complete. Once the students had finished the questionnaire, they remained silent and waited for peers to finish. Debrief for the students was given as part of the online survey (see Appendix D). It gave them places to receive support if they felt this was needed and invited them to ask any questions while the researcher was present. The researcher remained in the classroom for the duration of the task. Students were thanked and the researcher left the school.

Data Analysis

Data sets were exported from British Online Survey to SPSS software (IBM SPSS statistical package, version 23.0) in order for analysis to take place. Various items needed to be recoded due to the use of positively and negatively worded items within the scales (For recoded items refer to the Measures section). The independent variables include Social Anxiety, friendship quality, resilience and victimisation as predictors of the dependent variable - self-esteem. Descriptive statistics in the form of means and standard deviations for each scale were presented as part of the results process. Reliability and validity of the chosen scales were tested against the data set from the current study. Testing of the chosen psychometric properties (validity and reliability) ensures the data obtained is of quality (Pallant, 2013). For principle components analysis (validity) to be successful, participant size should exceed 100 (Brace, Kemp & Snelgar, 2012), based on this criteria, a large data set was achieved by the current study ($N = 653$).

Researchers chose to adopt validity criteria which was proposed by Cattell (1966); whereby main factors are identified from a scree plot. As discussed earlier, the number of main factors is subject to researcher judgment. Therefore, the choice for the current study was made by looking to the left of the point of inflection on the scree plot (Cattell, 1966). The scree plot method has been documented as the best choice for use within factor analysis research (Costello & Osborne, 2005). Based on Pallant (2013), reliability was deemed suitable when criteria of .7 was met, based on the Cronbach alpha statistic. Factor loadings were judged as adequate in line with the work from Tabachnick and Fidell (2006), who suggest that the minimum factor loading of an item should be .32. When an item loads highly onto a factor, that item is considered to contribute more to the construct being measured (Tabachnick & Fidell, 2006).

The correlations between each of the predictor variables, as well as between the dependent variable and each predictor variable will then be examined. According to

Pallant (2013), the coefficients between the predictor variables need not to exceed .7, this criteria was adopted by the researchers for use within the current study in order to eliminate any issues with multicollinearity, as previously discussed. However, the correlation between the dependent variable (self-esteem) and predictor variables (Social Anxiety, friendship quality, resilience and victimisation) should be high (Cortina, 1993; Gliem & Gliem, 2003; Tavakol & Dennick, 2010; Pallant, 2013). The relationship of a correlation differs, a direct relationship is found when coefficients are positive, meaning when one variable increases so does the other, whereas a negative coefficient indicates the relationship is indirect and that as one variable increases then the other decreases (Statistics Solutions, 2013).

Once psychometric tests along with tests for assumption had been satisfied the average scores were computed, which allowed for each response set to be condensed into an overall mean score, for each participant, per scale. After meeting the criteria of assumptions and tests set by the researchers (Cattell, 1966; Tabachnick & Fidell, 2006; Pallant, 2013) a multiple regression was conducted in order to attempt to answer research question 1 and 2. A multiple regression allows researchers to examine the relationship between a dependent variable (self-esteem) and independent variables (Social Anxiety, friendship quality, resilience and victimisation) (Tabachnick & Fidell, 2013). The beta value (β) states the direction of the relationship between the predictor variables and the independent variables (refer to Table 9.), the relationship can be either positive or negative (Field, 2009).

A series of four hierarchical multiple regression tests were run on the current data set, which aimed to provide an answer for research questions 3 and 4. Hierarchical regression allows researchers to control the entry of variables into the regression model. The hierarchical method enables researchers to investigate whether the predictors (variables of interest) can uniquely predict the dependent variable, when

controlling for the other variables. Hierarchical multiple regression is also a method which can determine how much of the variance (%) is unique to a specific predictor. Any remaining variance can be assumed to be shared between all of the predictor variables and the dependent variable (Pallant, 2013). Using friendship quality as an example, all other variables of interest (Social Anxiety, resilience and victimisation) were entered into the model first, allowing the unique variance of friendship quality to be found. This 'Enter' method was used sequentially, so that unique variance of all predictors could be investigated (See Tables 4, 5, 6 and 7). The R^2 changed value is times by 100 in order to work out the percentage of shared variance. Based on Pallant (2013) the significance level for the current study was set at .05 ($p < .05$).

Results

Descriptive statistics

Presented in Table 1, are the means and standard deviations for participants computed scores, for each scale. Mean and standard deviation scores on the Self-Esteem scale indicate that participants typically responded to the statements with 'sometimes', this was also found the case when considering the mean scores for the Friendship Quality scale, here participants responded on average with 'sometimes'. Mean and standard deviation scores indicated that participants rarely felt victimised, on average, choosing the 'Not often' or 'Rarely' response options on the Victimization scale. Participants responded using the 'quite a lot true for me' statement for Social Anxiety scale items, signifying that participants felt mostly anxious at the time the statements were answered. Finally, on average participants used 'true sometimes' and 'true often' in response to the items on the Resilience scale.

Table 1.

Means and Standard Deviations for Variables (Self-Esteem^a, Victimization^b, Friendship Quality^c, Social Anxiety^d and Resilience^e) used in Regression tests with Cronbach's α for all measures.

Variable	Mean	SD	N
Self-Esteem	1.97	.72	617
Victimization	.75	.60	621
Friendship Quality	1.97	.48	632
Social Anxiety	1.18	.72	600
Resilience	2.25	.82	582

Note. The variation in the sample size is due to participants having the option to not answer questions if they did not wish to. *SD* = Standard Deviation *N* = Number of participants.

^aScores could range from 0-3

^bScores could range from 0-3

^cScores could range from 0-3

^dScores could range from 0-3

^eScores could range from 0-4

Meeting the criteria for tests of assumption.

Preliminary analyses, including tests for normality, multicollinearity, outliers and case wise diagnostics were conducted prior to running a standard multiple regression and series of hierarchical multiple regressions. A Normal Probability plot displays that the assumptions for normality were satisfied (see Figure 1.). Mahalanobis distance was examined to determine possible outliers, the critical value was determined at 18.47 for the use with four independent variables (Pallant, 2013; see Appendix E for critical values table). Initially, seven outliers were found, however, due to the large data set (*N* = 653) (Brace, Kemp & Snelgar, 2012), the seven outliers that exceeded the critical value were not deemed a problem and were retained (Pallant, 2013). Each of the seven cases were then examined individually and all responses were deemed valid by the researchers (participant's provided appropriate responses to each item). Three of the cases only just exceeded the critical value of 18.47 (Pallant, 2013). Visually, outliers are also displayed in the form of a Scatterplot (see Figure 2.) whereby points lie close to the linear regression line, suggesting assumptions for linearity are met. In consideration of casewise diagnostics, there were two unusual cases highlighted. The residual values -3.475 and -3.469 (Case number 583 and 587) suggest that our model did not predict self-esteem in the way the model proposed, and state self-esteem for those participants was recorded at lower than initially predicted. Cooks distance was

also examined as values above 1 are considered a potential problem (Pallant, 2013), the maximum value for Cooks distance in the current study was .050, suggesting no issues would be caused by unusual cases.

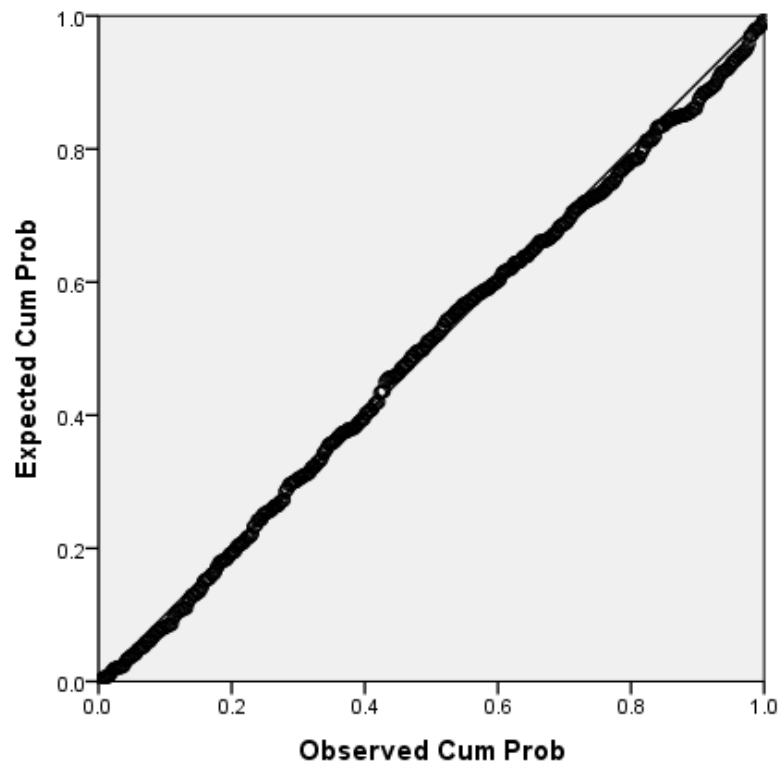


Figure 1.

Normal P-P plot of Regression Standardised Residual.

Note. Dependent Variable is Self-Esteem

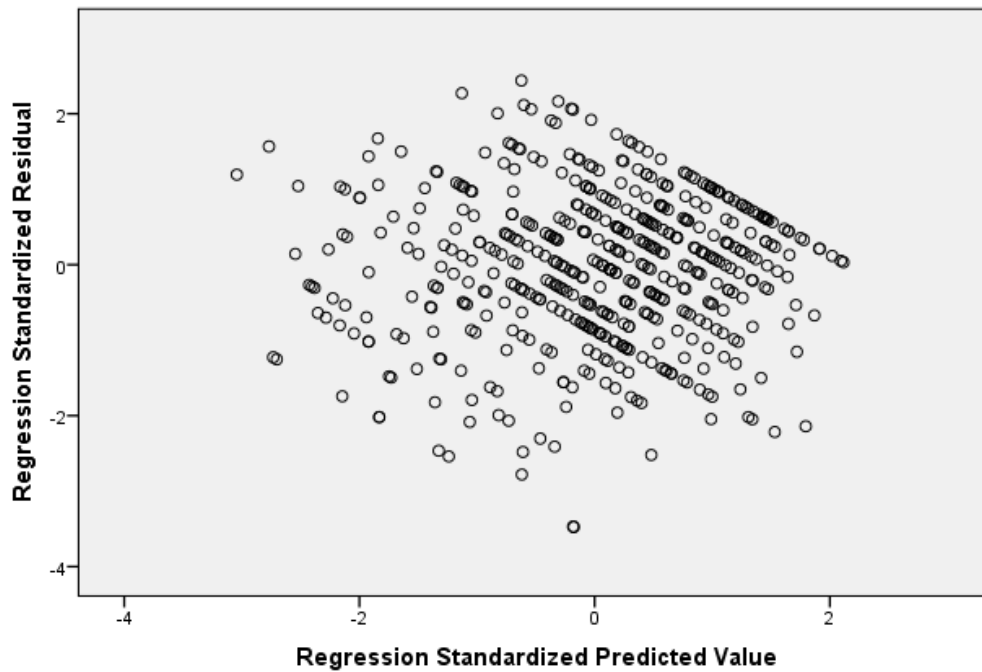


Figure 2: Scatterplot

Note. Dependent Variable is Self-Esteem

Testing Psychometric Properties

Scales (other than the Friendship Quality scale) are assumed by the researcher to be unidimensional and measure one main construct. The Friendship Quality scale consists of items from two sections of the original scale: companionship and conflict.

Table 2.

Showing the Internal Reliability of each scale in the form of a Cronbach Alpha Statistic.

Scale	Internal Reliability (α)
State Self-Esteem	.87
Resilience	.87
Social Anxiety	.85
Friendship Quality	.64
Victimisation	-

Self-report Victimisation

Reliability tests were not conducted on the Victimisation scale, this is because we automatically assumed this to not have high internal consistency. This is due to the different methods of victimisation (cyber, physical, verbal etc.) and the amount to which individuals are victimised tends to vary between participants. We would expect participant's responses to the items on the Victimisation scale to be inconsistent. However, validity tests show the scale to have good construct validity (See Figure 3) according to Cattell's scree plot, researchers would assume one main construct, and for this case researchers believe it to be victimisation. Each of the factor loadings of the items, load highly onto the main component, thus suggesting each item measures Victimisation (see Table 3.). Therefore, the scale is believed to have good construct validity.

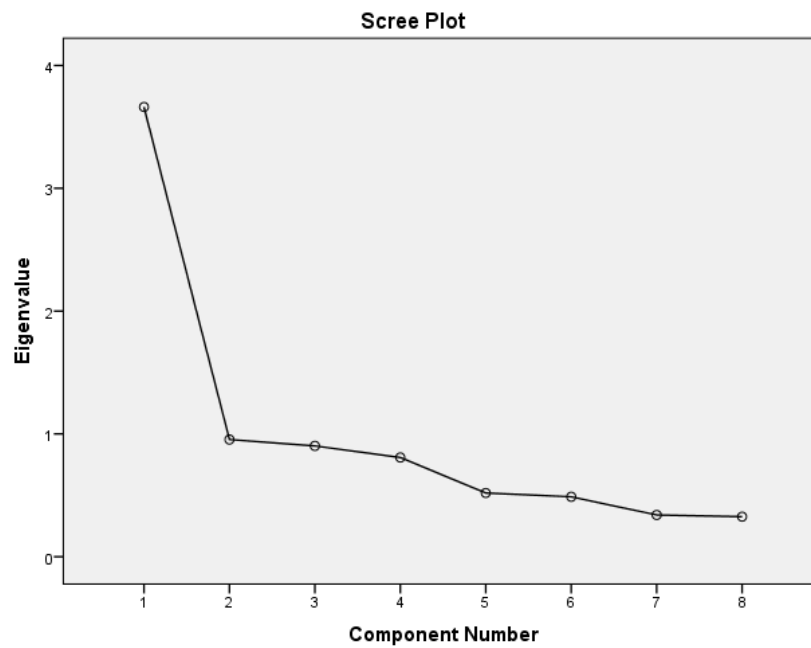


Figure 3: A scree plot to show main factors from the Self –report Victimisation Scale.

Table 3.

Factor Loadings of items of the Self-Report Victimisation Scale.

Item	Factor 1
1	.66
2	.75
3	.66
4	.71
5	.59
6	.71
7	.65
8	.67

State Self-Esteem

The Cronbach alpha statistic is considered to be high for the State Self-Esteem scale at .87, therefore indicating high internal consistency of the scale (see Table 2.). This suggests that participants are answering consistently across the items. One main construct can be accepted and is assumed to be state self-esteem (see Figure 4), as there is one main factor to the left of the first break in the scree plot (Cattell, 1966). Of the main factor chosen, each item loads highly onto the component, again suggesting this scale has good construct validity (See Table 4.).

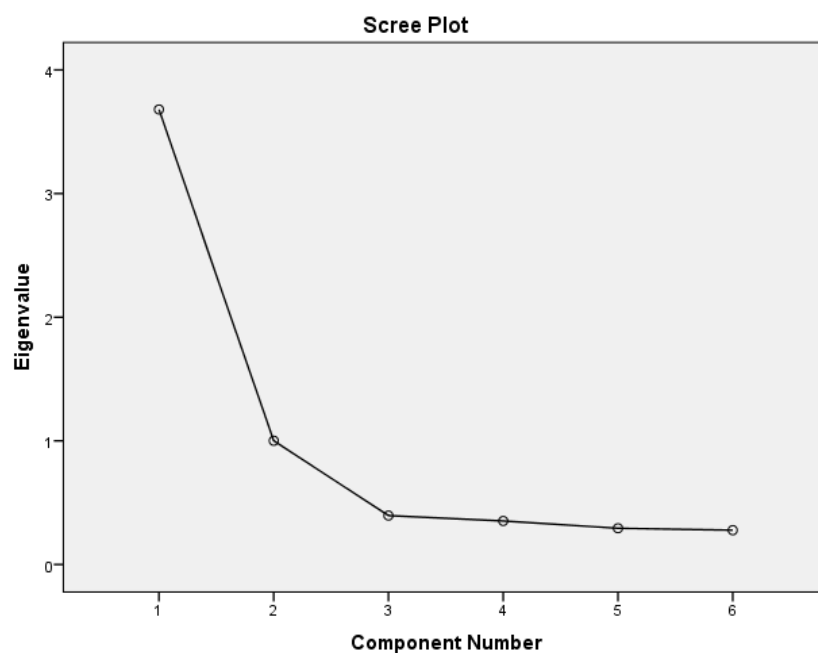


Figure 4: A scree plot to show main factors from the State Self-esteem Scale.

Table 4.

Factor Loadings of items of the State Self-esteem Scale.

Item	Factor 1	Factor 2
1	.78	.40
2	.78	-.43
3	.76	.43
4	.81	-.38
5	.81	.40
6	.77	-.41

Friendship Quality

Internal consistency was found to be below the accepted threshold for Cronbach alpha (.7) suggesting good reliability of a scale was not obtained at .64 (see Table 2.) (Pallant, 2013). As the original scale was reliable prior to the current study (refer to the introduction) it may be predicted that the selection of items from the companionship and conflict sections of the scale were just not reliable when tested with the current data set. Looking at the main break in the scree plot, it would suggest there are two main constructs (see Figure 5). This would coincide with the items researchers chose to use, measuring both companionship and conflict. When examining factor loadings for each component, it can be seen that the items highly load onto one of the chosen components. This means that the item measures one of the main constructs whether it be, companionship or conflict, refer to Table 5. Researchers do not want an item to measure both constructs.

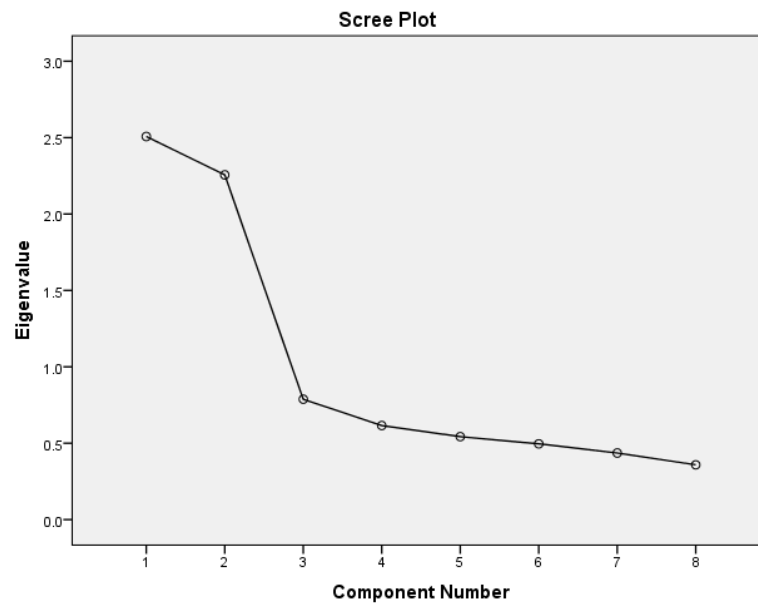


Figure 5: A scree plot to show main factors from the Friendship Quality Scale.

Table 5.

Factor Loadings of items of the Friendship Quality Scale.

Item	Factor 1	Factor 2
1	-.19	.79
2	-.17	.80
3	-.23	.72
4	-.19	.58
5	.73	.17
6	.76	.23
7	.82	.22
8	.76	.10

Resilience Scale

Similarly to the State Self-Esteem scale, the Resilience scale was found to have high internal reliability at .87 (see Table 2.). Cattell's (Cattell, 1966) scree plot would suggest one main factor, again suggesting it measures what it set out to measure, in this case, resilience (see Figure 6). The Resilience scale meets the criteria for having sound construct validity, factor loadings of the items used within this scale are moderate to high (See Table 6.).

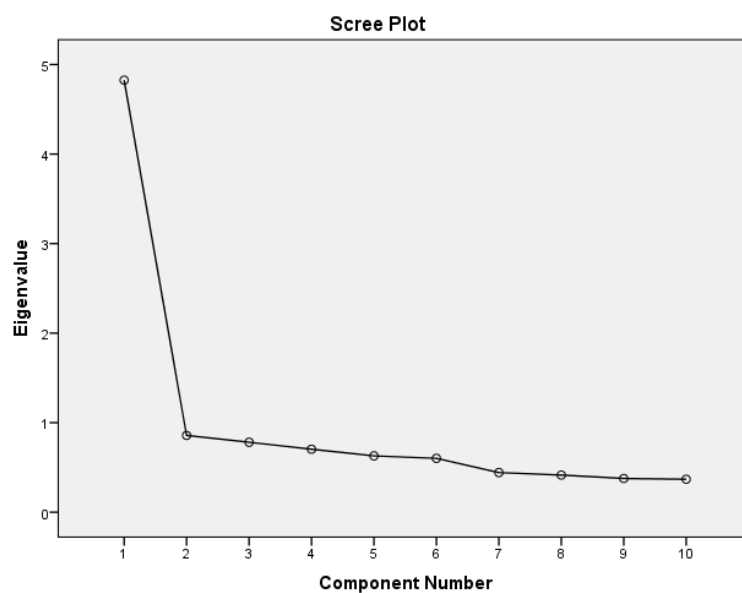


Figure 6: A scree plot to show main factors from the Resilience Scale

Table 6.

Factor Loadings of items of the Connor-Davidson Resilience Scale.

Item	Factor 1
1	.64
2	.75
3	.59
4	.58
5	.68
6	.75
7	.74
8	.69
9	.74
10	.76

Social Anxiety

Internal reliability for the Social Anxiety scale is high at .85, thus signifying this scale meets the criteria for good reliability (see Table 2.). Looking to the left of the first point of inflection on the Scree plot is one main factor. Researchers assumed this factor to be Social Anxiety, suggesting that the scale measures the desired construct (see Figure 7). For the main factor highlighted, each item loads moderate – high (See Table 7.), suggesting that the selected items measure one main construct - Social Anxiety.

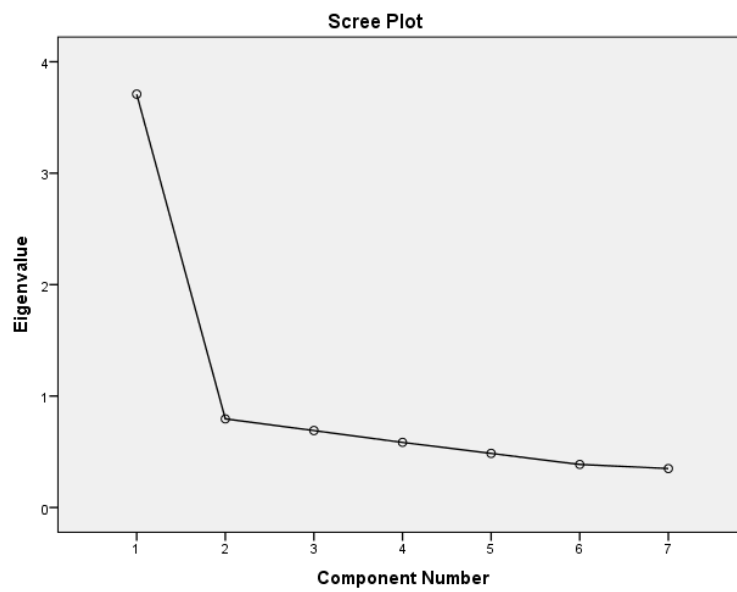


Figure 7: A scree plot to show main factors from the Social Anxiety Scale

Table 7.

Factor Loadings of items of the Revised Children's Manifest Anxiety Scale.

Item	Factor 1
1	.61
2	.77
3	.79
4	.76
5	.76
6	.57
7	.80

Bivariate correlations among variables

Cohen's standard was used to examine the correlations between variables and results are presented in Table 8. Correlation coefficients between the predictor variables were all statistically significant. Friendship Quality when correlated with three other independent variables (Victimisation, Resilience and Social Anxiety) displayed a statistically negative correlation, this was also the case between Social Anxiety and Resilience. Moreover, the relationship between Social Anxiety and Victimisation, along with the relationship between Resilience and Friendship Quality indicated a statistically positive correlation. As the results from the current study are below the stated value (.7), no variables had an issue of redundancy and could be retained, thus, assumptions of multicollinearity were satisfied (Pallant, 2013). Collinearity statistics (Tolerance and VIF) again indicate data met the criteria for multicollinearity (see Appendix H). Results found all predictor variables were statistically correlated with self-esteem, coefficients ranged from moderate to high. This indicates that examination of the data set through a standard multiple linear regression is suitable. Coefficients indicated two positive relationships (Self-Esteem and Friendship Quality; Self-Esteem and Resilience), along with two negative relationships (Self-Esteem and Victimisation; Self-Esteem and Social Anxiety).

Table 8.

Bivariate Pearson's Correlations of Dependent and Independent Variables.

Variable	Self-Esteem	Victimisation	Friendship Quality	Social Anxiety	Resilience
Self-Esteem					
N					
Victimisation	-.47 *				
N	591				
Friendship Quality	.32 *	-.29 *			
N	602	604			
Social Anxiety	-.61 *	.55 *	-.39 *		
N	574	574	585		
Resilience	.47 *	-.24 *	.18 *	-.52 *	
N	557	557	569	555	

Note. N = Number of participants

* $p < .001$ level of significance achieved

Standard multiple regression

A standard multiple linear regression analysis was performed to investigate whether student's levels of self-esteem could be predicted by peer victimisation, friendship quality, Social Anxiety and resilience, thus answering research questions 1 and 2.

Regression coefficients are shown in Table 9. The four predictor model accounted for 44% of the variance in Self-Esteem ($F(4, 550) = 107.18, p < .001, R^2 = .44$). All four predictor variables were statistically significant, the best predictor of self-esteem was Social Anxiety ($\beta = -.34, p < .001$). This was followed by resilience ($\beta = .23, p < .001$), victimisation ($\beta = -.21, p < .001$) and friendship quality ($\beta = .08, p < .05$). A Venn diagram visually shows the amount of variance that is shared between the predictor variables and self-esteem.

Table 9.

Standard Multiple Regression Analysis for Independent Variables as Predictors of Self-Esteem.

Predictor Variables		β
Victimisation		-.21 **
Friendship Quality		.08 *
Social Anxiety		-.34 **
Resilience		.23 **
R²	.44	
Adjusted R²	.43	

Note. β = Beta value

* $p < .05$

** $p < .001$

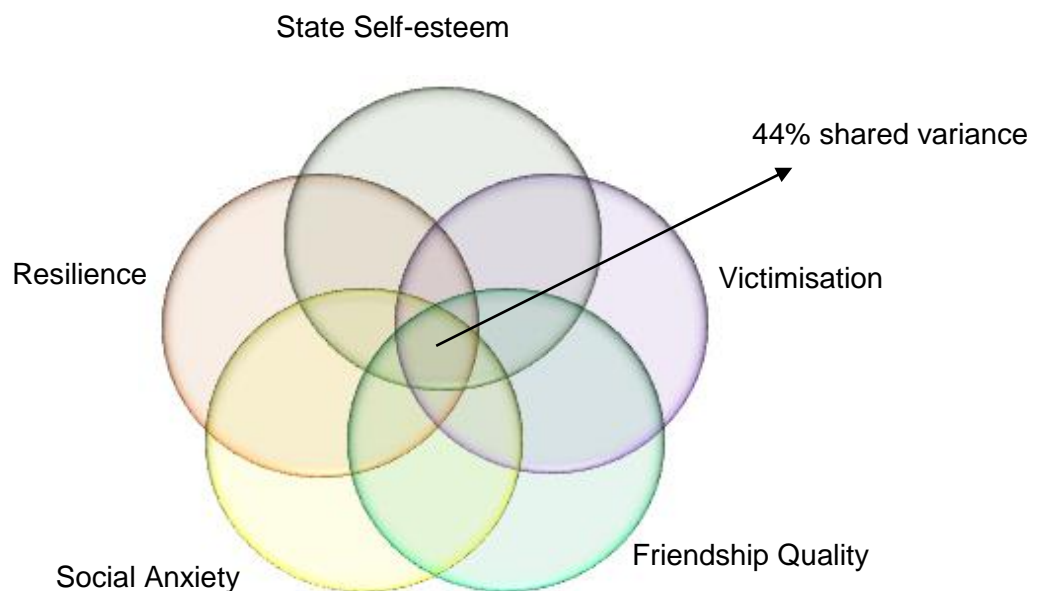


Figure 8: Venn diagram to show Shared Variance between the Predictor Variables and Dependent Variable

Hierarchical Multiple Regression

The first hierarchical multiple regression was conducted to examine whether friendship quality could uniquely predict self-esteem, and if so how much of the variance could be predicted. Friendship Quality significantly contributed to the regression model, F change (1, 550) = 5.42, $p < .05$ and accounted for 1% of the variance (see Table 10.) Secondly, Resilience was examined as a unique predictor of self-esteem, F change (1, 550) = 38.23, $p < .001$ and uniquely accounted for 4% of the variance (See Table 11.). Adding the highest amount of unique variance 6% to the overall variance for Self-Esteem was Social Anxiety F change (1, 550) = 56.98, $p < .001$. Social Anxiety was therefore determined as the most important predictor of Self-Esteem (See Table 12.). Finally, adding Victimisation to the regression further explained 3% unique variation in Self-Esteem F change (1, 550) = 28.45, $p < .001$ (See Table 13.). All changes to R^2 were statistically significant and together accounted for 14% of the variance in Self-Esteem. A discussion of the findings, implications, limitations and possible future research will be discussed further after the results.

Table 10.

Hierarchical Multiple Regression of Friendship Quality as a Unique Predictor of Self-Esteem.

Variable	β	R^2	R^2 change
Step 1		.44	
Victimisation	-.21 **		
Social Anxiety	-.34 **		
Resilience	.23 **		
Step 2			.01 *
Friendship Quality	.08 *		

Note. β = Beta value, R^2 Change = Unique Variance of Predictor

* $p < .05$

** $p < .001$

Table 11.

Hierarchical Multiple Regression of Resilience as a Unique Predictor of Self-Esteem.

Variable	β	R^2	R^2 change
Step 1			
		.44	
Victimisation	-.21 **		
Social Anxiety	-.34 **		
Friendship Quality	.08 *		
Step 2			
			.04 **
Resilience	.23 **		

Note. β = Beta value, R^2 Change = Unique Variance of Predictor

* $p < .05$

** $p < .001$

Table 12.

Hierarchical Multiple Regression of Social Anxiety as a Unique Predictor of Self-Esteem.

Variable	β	R^2	R^2 change
Step 1			
		.44	
Victimisation	-.21 **		
Friendship Quality	.08 *		
Resilience	.23 **		
Step 2			
			.06 **
Social Anxiety	-.34 **		

Note. β = Beta value, R^2 Change = Unique Variance of Predictor

* $p < .05$

$**p < .001$

Table 13.

Hierarchical Multiple Regression of Victimisation as a Unique Predictor of Self-Esteem.

Variable	β	R^2	R^2 change
Step 1		.44	
Friendship Quality	.08 *		
Resilience	.23 **		
Social Anxiety	-.34 **		
Step 2			.03 **
Victimisation	-.21 **		

Note. β = Beta value, R^2 Change = Unique Variance of Predictor

* $p < .05$

** $p < .001$

Discussion

The study aimed to identify associations between the predictor variables (friendship quality, resilience, Social Anxiety and victimisation) and the dependent variable (self-esteem). In terms of the research questions, researchers were concerned with whether the independent variables could collectively predict self-esteem, whilst also looking at the unique contribution each predictor made towards the construct of self-esteem. Research also provided evidence of the amount of shared and unique variance of the predictor variables. After conducting a multiple regression test our data showed that indeed, all the chosen predictor variables had an association with self-esteem, contributing to 44% of the variance. Together the variables of interest could predict levels of self-esteem in the students participating in the study. Following on from this a series of four hierarchical multiple regression tests provided evidence that each predictor (friendship quality, resilience, Social Anxiety and victimisation) could uniquely predict some of the variance with self-esteem: Friendship Quality (1%), Resilience (4%), Social Anxiety (6%) and Victimisation (3%). Each of the unique predictor findings will be discussed separately and then synthesised to recommend changes to existing intervention. Moving on, results from the psychometric property tests will be examined, further critical evaluation of the study documented, ending with future recommendations and conclusion.

Friendship Quality as a Unique Predictor of Self-esteem

The next relationship examined was that between friendship quality and self-esteem. Friendship quality was found to provide the smallest amount of unique variance (1%) of self-esteem and therefore is considered to be the variable that had the least impact on levels of self-esteem in the participating students. Participants within the study that stated they had good friendship quality were found to have higher levels

of self-esteem, providing further support to researchers who previously found a similar association (Berndt & Keefe, 1995; Kingery, Erdley & Marshall, 2011; Gorrese & Ruggieri, 2013; Jiang, Zhang, Ke, Hawk & Qiu, 2015). It was surprising given the extensive research in this area, that friendship quality was the lowest unique predictor. Reasons for this may have been that whilst children answered the items, they were sat next to their peers - some of whom the students may have been basing their answers upon. In turn, this may have led to the possibility of dishonest responses, as children may be worried about how their peers might view their answers (maybe if seen by friends). It would be valuable for researchers to allow space for children to answer the questionnaire alone, thus reducing the opportunity for students to provide false and unreliable data.

Combining other data collection methods may also provide researchers with more in-depth and rich accounts for each student. A strength of the work conducted by Wigfield, Eccles, Mac Iver, Reuman and Midgley (1991) was that self-esteem was monitored throughout different aspects of school. They examined the changes to student self-esteem across subject competence (Maths, English) and social ability (Wigfield, Eccles, Mac Iver, Reuman & Midgley, 1991). It was found that self-esteem scores were reduced during the transition to higher education. In order to strengthen findings of the current study, it might be that researchers in future chose to look into school factors that may affect self-esteem (such as ability in lesson etc.). Methods which would be beneficial to add to quantitative research, include observations of the students (Parker & Asher 1993), whereby researchers could observe the relationships between the peers and the behavioural characteristics exhibited by the students. Moving forward, by examining student behaviour in varying locations around school, researchers would be able examine natural behaviour, comparing natural behaviour to questionnaire responses.

Gartland and Bond (2011), provided a blank box for participants to write any comments about the items, this ensued the questionnaire. Providing students with this in future may allow for them to identify and document questions they found difficult to answer, or give reasoning behind their responses. However, the data collection process adopted by the researchers in the current study was viewed as advantageous as researchers were present throughout the administration of the questionnaire, students were allowed to raise and direct their questions throughout the process. The addition of a comment box would allow students who feel they cannot ask questions out loud, the opportunity to raise queries.

Multiple research depicts the ever-changing nature of friendships during childhood and adolescence (Parker & Asher, 1993; Berndt, 2002; Hiatt, Laursen, Mooney & Rubin, 2015), along with highlighting the fact that many of these relationships do not last into later life (Bowker, 2004). For this reason it is important to note the importance of conducting longitudinal research when examining self-esteem. Longitudinal research should include repeated administration to the same group of participants over a duration of time, thus allowing researchers to explore the most important predictors of self-esteem at different stages of development. Findings of such research would allow professionals to target intervention around the most prominent predictor of self-esteem, thus tailoring intervention to individuals as their self-esteem fluctuates throughout development and transition.

Resilience as a Unique Predictor of Self-Esteem

Current research aimed to address the gap within existing literature by exploring the concept of resilience further. A gap emerged as literature which focused on the relationship between self-esteem and resilience were limited. This was surprising due to resilience (as a predictor of self-esteem) presenting as the second most important predictor (behind Social Anxiety) of self-esteem. Resilience uniquely

contributed to 4% of the overall variance. Due to the little existing research, it was made hard to make comparisons between the findings of the current study and earlier studies, which may have found a similar association. Findings were consistent with the work by (Kidd, 2006; Veselska et al, 2009; Hofer et al, 2016; Rossi et al, 2017). However, the previous research cannot be generalised to the findings from the current study, as previous work focused on select populations for example: those with Schizophrenia (Hofer et al, 2016; Rossi et al, 2017), children who present with high risk behaviours (Veselska et al, 2009), and individuals who are homeless (Kidd, 2006). In light of this, current findings provide rationale for future research to be conducted on children from mainstream schools who are not categorised as a minority population, as evidence is provided to suggest resilience can play a large part in altering levels of self-esteem in young people who attended mainstream schools. This would allow researchers to generalise their findings to a wider population.

It is believed that the current findings highlight the importance of resilience for child and adolescent development with regards to changing levels of self-esteem. On reflection responses to the resilience questionnaire may have varied between each participant due to the source of resilience the students faced. In line with the work conducted by (Wald et al, 2006; Fleming & Ledogar, 2008; Herman et al, 2011) it may be that the participants faced problems with either 'personal, biological or system factors' or a combination of the three (Herman et al, 2011). Therefore, recommendation is made for future research to apply focus to specific sources of resilience. For schools, having the knowledge of not only the results from the current study which state resilience can predict resilience in school aged children, but also being able to recognise the source of resilience would be beneficial as it would allow them to implement strategies that would be specific to each student's needs.

Social Anxiety as a unique predictor of self-esteem

Given the vast amount of evidence which finds a relationship between Social Anxiety and self-esteem (Moksnes et al, 2010; De Jong et al, 2012; Sowislo & Orth, 2013) it did not come as a surprise to the researcher to find that Social Anxiety was the most important predictor of self-esteem within the current study. Social Anxiety uniquely accounted for 6% of the overall variance. Researchers believe the findings may have been consistent with the work by (Van Tuijl et al, 2014) for a number of reasons. The first being that a similar measure for self-esteem was administered (Reynolds & Richmond, 1978; 1985) meaning that participants could have documented similar levels of self-esteem to participants within the current study. Secondly, research was conducted on a large sample set from schools within the Netherlands. The Netherlands are considered to be a highly developed country, similar to the United Kingdom, meaning results can be generalised to the wider population. A strength of the methodology used within the current project is that researchers were present at time of data collection. Van Tuijl and colleagues (2014) ensured 2-3 researchers were present at the time the questionnaire was administered. Clearly this is a method that should be incorporated into future research given the success of improving reliability of both current work and the work by Van Tuijl et al (2014). Van Tuijl et al (2014) also conducted follow up studies.

Longitudinal work should be employed when examining self-esteem in young people as research suggests youths are vulnerable to low levels of self-esteem, especially during the transition into higher education (Wigfield, Eccles, Mac Iver, Reuman & Midgley, 1991; Hartup & Stevens, 1999; Aikins, Bierman & Parker, 2005; Kingery, Erdley & Marshall, 2011). However due to time constraints of the current project, longitudinal work was not feasible. It would be beneficial to increase the frequency of measurement over a long period of time (administer measure instrument

often to the same group of students), as changes to self-esteem could be assessed. This would help to address the gap, as the current work incorporating the transitional phase of development (adolescent changes) is limited.

As Social Anxiety has been found to be the most important predictor of self-esteem within children aged 10-16 years, it is vital that training be implemented in schools for staff (teachers, assistants etc.). This would increase staff awareness of Social Anxiety and enable them to recognise the symptoms of Social Anxiety (such as crying in school or low attendance (NHS, 2017). Training would in turn address the problem of misdiagnosis that has been highlighted (NICE, 2017). The hope that staff would be able to recognise symptoms may help with increasing levels of self-esteem in students, without having to tackle self-esteem alone. Given that the onset of Social Anxiety symptoms can happen as early as 13 years of age (NICE, 2017), it only seems obvious that future research apply attention to the secondary school age bracket (11-16 years). In terms of intervention, it should be noted that although youths may not present with full criteria for Social Anxiety (5th ed.; DSM-5; American Psychiatric Association, 2013), they may present with anxious behaviours (as explained earlier) which should not be ignored. However, it is important to note that labels should not be applied to students, staff should simply increase their vigilance when working alongside young people, and be aware of any child exhibiting socially anxious behaviour and changes to behaviour which may indicate low self-esteem.

Victimisation as a Unique Predictor of Self-Esteem

Findings allowed for examination of the direction of the relationship of each predictor; the more often somebody was victimised – regardless of the way an individual was victimised – led to lower levels of self-esteem, which complies with existing literature (Tsaousis, 2016). Findings from the current project address the evident gap whereby research is limited, as highlighted earlier. Victimisation was found

to uniquely predict self-esteem and contributed to 3% of the variance of self-esteem. The findings from the current study provide evidence that being subject to peer victimisation can cause young people to have low levels of self-esteem. This is a sensitive topic which urgently needs to be addressed within schools as (Austin & Joseph, 1996; Fröjd, Kaltiala-Heino & Marttunen, 2010) found that often, if not managed then low self-esteem can last into adulthood.

Based on the work conducted by Boulton and Smith (1994) and, Dake, Price and Telljohann, (2003) and, Hirschtritt et al (2015) who state that it is common for young people to experience victimisation. It is important that children and adolescents understand the different types of victimisation. Providing an understanding to young people of the many types of victimisation may optimistically get them to think about their own behaviours towards others, and the impact the behaviour might have on a peer. A problem appeared to arise, due to the questionnaire asking students to report on verbal, physical and cyber bullying. As the scores for each scale were summated into an overall average score, it was difficult to define which form of bullying had the greatest impact on the student's levels of self-esteem. In future it would be beneficial to consider the many forms of victimisation as separate predictors, as there is likely to be differing levels of self-esteem associated with each; especially with social media use among young people on the rise (Slonje, Smith & Frisé, 2013).

Formulation of a definition

It was discussed earlier that for each predictor variable (other than Social Anxiety) there was a lack of consensus between researchers for a specific definition (Heatherton & Polivy, 1991; Parker & Asher, 1993; Tafari & Swann Jr, 1995; Tafari & Milne, 2002; Wald, Taylor, Asmundson, Jang & Stapleton, 2006; Fleming & Ledogar, 2008; Thomaes et al, 2010; Gartland et al, 2011; Herman et al, 2011). Therefore, the current researchers chose specific domains to focus on. For friendship

quality 'companionship and conflict' were chosen, state self-esteem, resilience and also specific areas of victimisation were focused upon (physical, verbal and cyber). It has proved difficult to provide a solid definition due to the many variations and subtypes of each construct (self-esteem, friendship quality, resilience, Social Anxiety and victimisation). Along with the overlapping of predictive variables, it is important to keep in mind that fluctuation of an individual's self-esteem happens during the period of childhood into and throughout adolescence (Bos et al, 2006; Valkenburg, Koutamanis & Vossen, 2017), which can happen for a number of reasons. For example, making new friends, changing schools, first relationships, puberty etc.

Salmivalli and colleagues (1999) reported that there were other factors related to the construct of self-esteem. They explained that self-esteem wasn't just reported as high and low but that self-esteem could be 'defensive, genuine, humble and self-bellittling' which varied to different degrees between individuals (Salmivalli et al, 1999). The current study focused on 'state self-esteem' meaning self-esteem responses were based on how the individual felt at the time they completed the questionnaire. It is therefore important not to ignore the multidimensional construct that is 'self-esteem'. Future research should consider paying attention to specific elements of self-esteem, as the importance of each predictor may change dependent on the source of self-esteem (for example, issues surrounding body image, changes to relationships etc.).

Practical Implication – Importance of Appropriate Intervention

The effect size for each predictor variable can be interpreted from the value of 'R squared' (R^2), which is documented after each regression test. There is no specific criteria for the effect size, however the more variance a predictor can account for the more of an effect it has in the real world. The larger the effect size the more a variable can be representative of the participant sample. Within the current study, Social Anxiety has the largest amount of unique variance and is therefore considered to have

more of an effect on self-esteem than the other predictor variables. When applied to real world settings Social Anxiety would be able to predict self-esteem in students more so than resilience, friendship quality and victimisation.

Given the importance of self-esteem for a young person's development, which has been highlighted throughout this project (Mann et al, 2004; Bos et al, 2006; Orth, Robins & Roberts, 2008; Moksnes et al, 2010; Kingery, Erdley & Marshall, 2011; De Jong et al, 2012; Sowislo & Orth, 2013; Birkeland, Breivik & Wold, 2014), it is fundamental to understand that the multidimensional concept of self-esteem is influenced by many factors, and many of these factors do in fact overlap (Friendship quality, resilience, Social Anxiety and victimisation), evidenced by the findings from the current study. Therefore resulting in enhancing or diminishing levels of youth's self-esteem, at varying degrees. Findings produced by the researcher suggest that as a collection, the independent variables can predict levels of state self-esteem in children and adolescents, sharing 44% of the variance. The factors contributing to changing levels of self-esteem in children and adolescents within the current study were: Social Anxiety, friendship quality, resilience and victimisation, thus providing support of the collective influence the above factors have on self-esteem. Due to the overlapping nature of the predictor variables (Social Anxiety, friendship quality, resilience and victimisation) found to be evident in the current study, it seems unrealistic to assume that one intervention could address fully or be the answer to enhancing low self-esteem in youths.

The overwhelming amount of interventions to tackle self-esteem in young people is not surprising, given it is a multifaceted construct as explained earlier. Touching on successful intervention, O'Dea and Abraham (2000) aimed to tackle self-esteem in children aged 11-14 years. The school based programme proved a success by significantly increasing the body satisfaction and self-esteem in both males and

females. A year later the positive outcomes of the programme were still evident in the students. O'Dea and Abraham (2000) felt that the succession of the programme was due to the reinforcement from teachers, thus suggesting that interventions in school are fundamental for improving levels of self-esteem in students. It is recommended by the present researcher that such interventions should be implemented throughout young people's academic years, as this may help to stabilise levels of self-esteem through difficult transition periods.

More recently in South Korea, a successful twelve week programme was comprised with five levels: 'introduction, self-understanding, personal relationship, sense of purpose/competence improvement, conclusion' (Park & Park, 2015). Findings showed that self-esteem and peer relationships were improved after completion of the intervention. The work was administered by registered nurses, however, on reflection, given the simplicity of the improvement programme it could be implemented into schools, a recommendation put forward for consideration by Park and Park (2015) themselves. Future research using similar programmes to improve self-esteem is highly recommended due to the importance of self-esteem for child and adolescent development (Bos et al, 2006; Valkenburg, Koutamanis & Vossen, 2017). The recommendation of Park and Park (2015) was to implement their programmes into schools, based on the findings from O'Dea and Abraham (2000), this would produce sustainable results for improving self-esteem over time in children and adolescents. When examining the school based programmes (O'Dea & Abraham, 2000; Park & Park, 2015) it is believed that the programmes could be tailored at different levels for example, be made suitable for each age or school group/year. This may lead to addressing the fluctuation of self-esteem at transition into higher education (Bos et al, 2006; Valkenburg, Koutamanis & Vossen, 2017), thus improving the stability of self-esteem in children and adolescents during this time. However, as the current study

found there to be a number of predictive factors influencing self-esteem in school children, it is fundamental to consider interventions that not only focus upon the construct of self-esteem itself but aim to address the underlying factors that can contribute to lower self-esteem in young people. A number of current interventions focus specifically on enhancing resilience in young people, both school based programmes (Ungar, Russel & Connelly, 2014) and, family intervention based programmes (Rutter, 1999). Team building games may be used in order to improve friendship quality, for children with learning disabilities parents tend to focus upon social skill building (Laugeson, Frankel, Mogil & Dillon, 2009).

Interestingly, increasing the amount of physical activity has been found to increase self-esteem in young people (Fitzgerald, Fitzgerald & Aherne, 2012). This suggests that implementing something as simple as a little physical exercise to interventions, could have a positive outcome by increasing levels of self-esteem in students. Due to social media use among children and adolescents on the rise (Slonje, Smith & Frisé, 2013), Lenhart, Purcell, Smith and Zickuhr (2010) state that Facebook is the most popular. Cyber intervention to tackle fluctuating levels of self-esteem in young people may be beneficial as it is likely to enhance student engagement. O'Keeffe and Clarke-Pearson (2011) suggest that support groups/networks and health sites are more accessible to young people online. However, if cyber intervention programmes were used then parents and teachers would need to monitor young people as there is high risk of online harassment and cyberbullying (O'Keeffe & Clarke-Pearson, 2011). On the other hand Valkenburg, Koutamanis and Vossen (2017) suggest that self-esteem in young people is increased when using social networking sites.

Further critical evaluation

The current study addressed the concern that Herman et al (2011) had with regards to the need for clearer information on the measuring instruments used within research. The concern was that if measures weren't documented then it made findings from studies harder to compare. By thoroughly explaining each of the measures chosen (refer to measures section) the findings will be able to be used for future comparison. However, limitations arise as a self-report method was adopted, participants were asked to respond to how much they agreed or disagreed with a statement. Due to the nature of self-report, it is possible that participants may have answered dishonestly, or simply copied their peers. Again adopting a behavioural observation as well as administration of a questionnaire would add depth and improve the validity of findings, in line with the work conducted by Parker and Asher (1993). The instrument used to measure victimisation asked students to report how often in the last year they had been subject to a particular kind of victimisation, if any. By setting a time frame it ignored any account of victimisation in previous years, therefore students that had been subject to victimisation but not in the previous year had to state 'Never', when in fact they might have in the past. Researchers chose to set a time frame so that responses were based on clarity of memory, thus ensuring the responses reported were reliable.

During data collection, a number of students, especially those who were younger, asked the researcher to read and explain words and questions. It was felt that the instruments used might have caused them some confusion. Because of this, researchers believe that when conducting future work that requires a younger sample, then questions should be differentiated to a level, that for younger children, would be more understandable, or, for example pictures and/or videos could be used. Again, simply reading the questions out loud could help with understanding. Researchers can

only assume the children who didn't raise questions, were capable of fully understanding each statement. Advantageous to the current project is the documentation of satisfying assumption and psychometric tests (refer to the results). Psychometric tests are important as they provide confirmation that a study can be trusted as being valid and reliable. Being able to show that criteria for testing has been met is a solid indicator that researchers have used good quality measures within their research (Field, 2009; Pallant, 2013). All tests of assumption and psychometric tests conducted within the current study met the chosen criteria. Hulsey (2008) states that within psychological research evidence of psychometric and assumption tests are limited. For this reason, the reliability and validity of studies which choose not to provide reports of testing, are left to be questioned.

With regards to the chosen data analysis technique (multiple and hierarchical regression) a strength is highlighted. Using regression tests researchers are able to determine how much influence a predictor variable has on the chosen variables of interest (Pallant, 2013). However, it is likely that some data sets are left incomplete, meaning that results may be flawed. By conducting tests of assumption alongside regression, any outliers or anomalies within the data set can be identified (Pallant, 2013).

Further future recommendation

Along with future recommendation previously reported, researchers believe it would be important to consider the differences between genders. Gjerde, Block and Block (1988), Furnham, Badmin and Sneade (2002) and Van den Berg, Mond, Eisenberg, Ackard and Neumark-Sztainer (2010) found that levels of self-esteem varied between males and females. Based on the differences found between genders, it seems important that gender difference be the focus of future research. A moderation could be conducted, which would allow researchers to examine the relationship

between the predictor variable and dependent variable. For practical use, intervention could again be made more specific to combat the areas of self-esteem that males and females find difficulty with. Further research could look at age differences, aiming to examine the factors that may influence each individual's level of self-esteem at different ages.

In conclusion, research set out to examine the relationship between the predictor variables: Social Anxiety, resilience, friendship quality and victimisation and the dependent variable: self-esteem. It was found that Social Anxiety was the most important predictor of self-esteem, however all predictors made a significant unique contribution towards self-esteem and for that reason each predictor should be taken into consideration when tackling student's levels of self-esteem. Findings from the current study add to the ever-expanding literature that surrounds the construct of self-esteem. Researchers hope that educators and professionals may use their findings to enhance existing interventions. It is fundamental that intervention be implemented as early as possible due to the importance of self-esteem in relation to academic, emotional and social development in children and adolescents. It is, however, crucial to note that the current project is the middle of a very long process, and researchers recommend that future work be conducted which pays particular attention to the child-adolescent age bracket. This is because research dictates that self-esteem during this time fluctuates more so than at any other stage of development.

References

- Aikins, J. W., Bierman, K. L., & Parker, J. G. (2005). Navigating the transition to junior high school: The influence of pre-transition friendship and self-system characteristics. *Social Development, 14*(1), 42-60.
- American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders (5th ed.). Arlington, VA: American Psychiatric Publishing. Text citation: (American Psychiatric Association, 2013)
- Austin, S., & Joseph, S. (1996). Assessment of bully/victim problems in 8 to 11 year-olds. *British journal of educational psychology, 66*(4), 447-456.
- Baker, Ö. E., & Tanrikulu, İ. (2010). Psychological consequences of cyber bullying experiences among Turkish secondary school children. *Procedia-Social and Behavioral Sciences, 2*(2), 2771-2776.
- Baumeister, R. F., Campbell, J. D., Krueger, J. I., & Vohs, K. D. (2003). Does high selfesteem cause better performance, interpersonal success, happiness, or healthier lifestyles? *Psychological Science in the Public Interest, 4*, 1-44.
- Baumeister, R. F., Smart, L., & Boden, J. M. (1996). Relation of threatened egotism to violence and aggression: the dark side of high self-esteem. *Psychological review, 103*(1), 5.
- Berndt, T. J. (2002). Friendship quality and social development. *Current directions in psychological science, 11*(1), 7-10.
- Berndt, T. J., & Keefe, K. (1995). Friends' influence on adolescents' adjustment to school. *Child development, 66*(5), 1312-1329.

- Birkeland, M. S., Breivik, K., & Wold, B. (2014). Peer acceptance protects global self-esteem from negative effects of low closeness to parents during adolescence and early adulthood. *Journal of Youth and Adolescence*, 43(1), 70-80.
- Bolger, K. E., Patterson, C. J., & Kupersmidt, J. B. (1998). Peer relationships and self-esteem among children who have been maltreated. *Child development*, 69(4), 1171-1197.
- Bollmer, J. M., Milich, R., Harris, M. J., & Maras, M. A. (2005). A friend in need: The role of friendship quality as a protective factor in peer victimization and bullying. *Journal of interpersonal violence*, 20(6), 701-712.
- Bos, A. E., Muris, P., Mulkens, S., & Schaalma, H. P. (2006). Changing self-esteem in children and adolescents: A roadmap for future interventions. *Netherlands Journal of Psychology*, 62(1), 26-33.
- Boulton, M. J., & Smith, P. K. (1994). Bully/victim problems in middle-school children: Stability, self-perceived competence, peer perceptions and peer acceptance. *British journal of developmental psychology*, 12(3), 315-329.
- Boulton, M. J., Trueman, M., & Murray, L. (2008). Associations between peer victimization, fear of future victimization and disrupted concentration on class work among junior school pupils. *British Journal of Educational Psychology*, 78(3), 473-489.
- Bowker, A. (2004). Predicting friendship stability during early adolescence. *The Journal of Early Adolescence*, 24(2), 85-112.
- Brace, N., Kemp, R., & Snelgar, R. (2012). *SPSS for psychologists* (5th ed.). Basingstoke: Palgrave Macmillan.

- Brizio, A., Gabbatore, I., Tirassa, M., & Bosco, F. M. (2015). "No more a child, not yet an adult": studying social cognition in adolescence. *Frontiers in psychology*, 6.
- Bukowski, W. M., Hoza, B., & Boivin, M. (1994). Measuring friendship quality during pre-and early adolescence: The development and psychometric properties of the Friendship Qualities Scale. *Journal of social and Personal Relationships*, 11(3), 471-484.
- Cambridge dictionary online. (2017) *Cambridge Dictionary Online*. Retrieved 21 July, 2017, from <http://dictionary.cambridge.org/dictionary/english/friend>
- Cambridge dictionary online. (2017). *Cambridge Dictionary Online*. Retrieved 29 July, 2017, from <http://dictionary.cambridge.org/dictionary/english/stereotype>
- Cambridge dictionary online. (2017). *Cambridge Dictionary Online*. Retrieved 29 July, 2017, from <http://dictionary.cambridge.org/dictionary/english/prejudice>
- Campbell-Sills, L., & Stein, M. B. (2007). Psychometric analysis and refinement of the connor–davidson resilience scale (CD-RISC): Validation of a 10-item measure of resilience. *Journal of traumatic stress*, 20(6), 1019-1028.
- Cattell, R. B. (1966). The scree test for the number of factors. *Multivariate behavioral research*, 1(2), 245-276.
- Chorpita, B. F., Moffitt, C. E., & Gray, J. (2005). Psychometric properties of the Revised Child Anxiety and Depression Scale in a clinical sample. *Behaviour research and therapy*, 43(3), 309-322.
- Chung, J. M., Hutteman, R., van Aken, M. A., & Denissen, J. J. (2017). High, low, and in between: Self-esteem development from middle childhood to young adulthood. *Journal of Research in Personality*, 70, 122-133.

- Connor KM, Davidson JR: Development of a new resilience scale: the Connor-Davidson Resilience Scale (CD-RISC). *Depression and Anxiety*. 2003, 18 (2): 76-82. 10.1002/da.10113
- Cortina, J. M. (1993). What is coefficient alpha? An examination of theory and applications. *Journal of applied psychology*, 78(1), 98.
- Costello, A. B., & Osborne, J. W. (2005). Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis. *Practical assessment, research & evaluation*, 10(7), 1-9.
- Craig, W. A. (1998). Pharmacokinetic/pharmacodynamic parameters: rationale for antibacterial dosing of mice and men. *Clinical infectious diseases*, 26(1), 1-10.
- Dake, J. A., Price, J. H., & Telljohann, S. K. (2003). The nature and extent of bullying at school. *Journal of school health*, 73(5), 173-180.
- De Jong, P. J., Sportel, B. E., De Hullu, E., & Nauta, M. H. (2012). Co-occurrence of Social Anxiety and depression symptoms in adolescence: differential links with implicit and explicit self-esteem?. *Psychological medicine*, 42(3), 475-484.
- DeVellis, R. F. (2016). *Scale development: Theory and applications* (Vol. 26). Sage publications.
- Donnellan, M. B., Trzesniewski, K. H., Robins, R. W., Moffitt, T. E., & Caspi, A. (2005). Low self-esteem is related to aggression, antisocial behavior, and delinquency. *Psychological science*, 16(4), 328-335.
- Fenzel, L. M. (2000). Prospective study of changes in global self-worth and strain during the transition to middle school. *The Journal of Early Adolescence*, 20(1), 93-116.

- Field, A. (2009). *Discovering statistics using SPSS*. (3rd ed.). Sage publications: London
- Fitzgerald, A., Fitzgerald, N., & Aherne, C. (2012). Do peers matter? A review of peer and/or friends' influence on physical activity among American adolescents. *Journal of adolescence*, 35(4), 941-958.
- Fleming, J., & Ledogar, R. J. (2008). Resilience, an evolving concept: A review of literature relevant to Aboriginal research. *Pimatisiwin*, 6(2), 7.
- Fröjd, S. A., Kaltiala-Heino, R., & Marttunen, M. J. (2010). Does problem behaviour affect attrition from a cohort study on adolescent mental health?. *The European Journal of Public Health*, 21(3), 306-310.
- Furnham, A., Badmin, N., & Sneade, I. (2002). Body image dissatisfaction: Gender differences in eating attitudes, self-esteem, and reasons for exercise. *The Journal of psychology*, 136(6), 581-596.
- Gartland, D., Bond, L., Olsson, C. A., Buzwell, S., & Sawyer, S. M. (2011). Development of a multi-dimensional measure of resilience in adolescents: the Adolescent Resilience Questionnaire. *BMC medical research methodology*, 11(1), 134.
- Ginsburg, G. S., La Greca, A. M., & Silverman, W. K. (1998). Social Anxiety in children with anxiety disorders: Relation with social and emotional functioning. *Journal of abnormal child psychology*, 26(3), 175-185.
- Gjerde, P. F., Block, J., & Block, J. H. (1988). Depressive symptoms and personality during late adolescence: Gender differences in the externalization-internalization of symptom expression. *Journal of abnormal Psychology*, 97(4), 475.

- Gliem, J. A., & Gliem, R. R. (2003). Calculating, interpreting, and reporting Cronbach's alpha reliability coefficient for Likert-type scales. Midwest Research-to-Practice Conference in Adult, Continuing, and Community Education.
- Gorrese, A., & Ruggieri, R. (2013). Peer attachment and self-esteem: A meta-analytic review. *Personality and Individual Differences*, 55(5), 559-568.
- Gorrese, A., & Ruggieri, R. (2013). Peer attachment and self-esteem: A meta-analytic review. *Personality and Individual Differences*, 55(5), 559-568.
- Grills, A. E., & Ollendick, T. H. (2002). Peer victimization, global self-worth, and anxiety in middle school children. *Journal of clinical child and adolescent psychology*, 31(1), 59-68.
- Hartup, W. W., & Stevens, N. (1997). Friendships and adaptation in the life course. *Psychological bulletin*, 121(3), 355.
- Hartup, W. W., & Stevens, N. (1999). Friendships and adaptation across the life span. *Current directions in psychological science*, 8(3), 76-79.
- Heatherton, T. F., & Polivy, J. (1991). Development and validation of a scale for measuring state self-esteem. *Journal of Personality and Social psychology*, 60(6), 895.
- Herrman, H., Stewart, D. E., Diaz-Granados, N., Berger, E. L., Jackson, B., & Yuen, T. (2011). What is resilience?. *The Canadian Journal of Psychiatry*, 56(5), 258-265.
- Hiatt, C., Laursen, B., Mooney, K. S., & Rubin, K. H. (2015). Forms of friendship: A person-centered assessment of the quality, stability, and outcomes of different types of adolescent friends. *Personality and individual differences*, 77, 149-155.

- Hinduja, S., & Patchin, J. W. (2010). Bullying, cyberbullying, and suicide. *Archives of suicide research, 14*(3), 206-221.
- Hirschtritt, M. E., Ordóñez, A. E., Rico, Y. C., & LeWinn, K. Z. (2015). Internal resilience, peer victimization, and suicidal ideation among adolescents. *International journal of adolescent medicine and health, 27*(4), 415-423.
- Hjemdal, O., Friborg, O., Stiles, T. C., Martinussen, M., & Rosenvinge, J. H. (2006). A new scale for adolescent resilience: Grasping the central protective resources behind healthy development. *Measurement and evaluation in Counseling and Development, 39*(2), 84.
- Hodges, E. V., Boivin, M., Vitaro, F., & Bukowski, W. M. (1999). The power of friendship: protection against an escalating cycle of peer victimization. *Developmental psychology, 35*(1), 94.
- Hofer, A., Mizuno, Y., Frajo-Apor, B., Kemmler, G., Suzuki, T., Pardeller, S., & Fleischhacker, W. W. (2016). Resilience, internalized stigma, self-esteem, and hopelessness among people with schizophrenia: Cultural comparison in Austria and Japan. *Schizophrenia research, 171*(1), 86-91.
- Huang, C., & Dong, N. (2012). Factor structures of the Rosenberg self-esteem scale. *European Journal of Psychological Assessment.*
- Hulsey, C. (2008). *Examining the psychometric properties of self-report measures of bullying: Reliability of the peer relations questionnaire* (Doctoral dissertation, Wichita State University).
- Humphrey, N. (2004). The death of the feel-good factor? Self-esteem in the educational context. *School Psychology International, 25*(3), 347-360.

- Hunter, C. (2012). Is resilience still a useful concept when working with children and young people?. *Journal of the Home Economics Institute of Australia*, 19(1), 45.
- Jew, C. L., Green, K. E., & Kroger, J. (1999). Development and validation of a measure of resiliency. *Measurement and evaluation in counseling and development*, 32(2), 75.
- Jiang, J., Zhang, Y., Ke, Y., Hawk, S. T., & Qiu, H. (2015). Can't buy me friendship? Peer rejection and adolescent materialism: Implicit self-esteem as a mediator. *Journal of Experimental Social Psychology*, 58, 48-55.
- Kaiser, H. F. (1960). The application of electronic computers to factor analysis. *Educational and psychological measurement*, 20(1), 141-151.
- Kashdan, T. B., & Herbert, J. D. (2001). Social Anxiety disorder in childhood and adolescence: Current status and future directions. *Clinical Child and Family Psychology Review*, 4(1), 37-61.
- Kidd, S. A. (2006). Factors precipitating suicidality among homeless youth: A quantitative follow-up. *Youth & Society*, 37(4), 393-422.
- Kidd, S., & Shahar, G. (2008). Resilience in homeless youth: the key role of self-esteem. *American Journal of Orthopsychiatry*, 78(2), 163.
- Kingery, J. N., Erdley, C. A., & Marshall, K. C. (2011). Peer acceptance and friendship as predictors of early adolescents' adjustment across the middle school transition. *Merrill-Palmer Quarterly*, 57(3), 215-243.
- Kumpfer, K. L. (2002). Factors and processes contributing to resilience. In *Resilience and development* (pp. 179-224). Springer US.

- Laible, D. J., Carlo, G., & Roesch, S. C. (2004). Pathways to self-esteem in late adolescence: The role of parent and peer attachment, empathy, and social behaviours. *Journal of adolescence*, 27(6), 703-716.
- Laugeson, E. A., Frankel, F., Mogil, C., & Dillon, A. R. (2009). Parent-assisted social skills training to improve friendships in teens with autism spectrum disorders. *Journal of autism and developmental disorders*, 39(4), 596-606.
- Laursen, B. P., Furman, W., & Mooney, K. S. (2006). Predicting interpersonal competence and self-worth from adolescent relationships and relationship networks: Variable-centered and person-centered perspectives. *Merrill-Palmer Quarterly*, 52(3), 572-600.
- Ledesma, R. D., Valero-Mora, P., & Macbeth, G. (2015). The scree test and the number of factors: a dynamic graphics approach. *The Spanish journal of psychology*, 18.
- Lenhart, A., Purcell, K., Smith, A., & Zickuhr, K. (2010). Social Media & Mobile Internet Use among Teens and Young Adults. Millennials. *Pew internet & American life project*.
- Levin, K. A. (2006). Study design III: Cross-sectional studies. *Evidence-based dentistry*, 7(1), 24.
- Luthar, S. S., Doernberger, C. H., & Zigler, E. (1993). Resilience is not a unidimensional construct: Insights from a prospective study of inner-city adolescents. *Development and psychopathology*, 5(4), 703-717.
- Mann, C. J. (2003). Observational research methods. Research design II: cohort, cross sectional, and case-control studies. *Emergency medicine journal*, 20(1), 54-60.

- Mann, M. M., Hosman, C. M., Schaalma, H. P., & De Vries, N. K. (2004). Self-esteem in a broad-spectrum approach for mental health promotion. *Health education research, 19*(4), 357-372.
- Marsh, H. W., Scalas, L. F., & Nagengast, B. (2010). Longitudinal tests of competing factor structures for the Rosenberg Self-Esteem Scale: traits, ephemeral artifacts, and stable response styles. *Psychological assessment, 22*(2), 366.
- Masten, A. S. (2001). Ordinary magic: Resilience processes in development. *American psychologist, 56*(3), 227.
- Masten, A. S., & Coatsworth, J. D. (1998). The development of competence in favorable and unfavorable environments: Lessons from research on successful children. *American psychologist, 53*(2), 205.
- Moksnes, U. K., Moljord, I. E., Espnes, G. A., & Byrne, D. G. (2010). The association between stress and emotional states in adolescents: The role of gender and self-esteem. *Personality and Individual Differences, 49*(5), 430-435.
- Mota, C. P., & Matos, P. M. (2013). Peer attachment, coping, and self-esteem in institutionalized adolescents: The mediating role of social skills. *European journal of psychology of education, 28*(1), 87-100.
- Nangle, D. W., Erdley, C. A., Newman, J. E., Mason, C. A., & Carpenter, E. M. (2003). Popularity, friendship quantity, and friendship quality: Interactive influences on children's loneliness and depression. *Journal of Clinical Child and Adolescent Psychology, 32*(4), 546-555.
- Nansel, T. R., Overpeck, M., Pilla, R. S., Ruan, W. J., Simons-Morton, B., & Scheidt, P. (2001). Bullying behaviors among US youth: Prevalence and association with psychosocial adjustment. *Jama, 285*(16), 2094-2100.

- National Institute for Health and Clinical Excellence (2017). *Social Anxiety Disorder*. Retrieved 6 August 2017, from <https://www.nice.org.uk/guidance/cg159/documents/social-anxiety-disorder-final-scope2><https://www.nice.org.uk/guidance/cg159/documents/social-anxiety-disorder-final-scope2>
- O'Dea, J. A., & Abraham, S. (2000). Improving the body image, eating attitudes, and behaviors of young male and female adolescents: A new educational approach that focuses on self-esteem. *International Journal of Eating Disorders*, 28(1), 43-57.
- O'Keeffe, G. S., & Clarke-Pearson, K. (2011). The impact of social media on children, adolescents, and families. *Pediatrics*, 127(4), 800-804.
- Olweus, D. (1993). *Bullying at school: What we know and what we can do*. Oxford, UK: Basil Blackwell.
- Orth, U., Robins, R. W., & Roberts, B. W. (2008). Low self-esteem prospectively predicts depression in adolescence and young adulthood. *Journal of personality and social psychology*, 95(3), 695.
- Pallant, J. (2013). *SPSS Survival Manual* (5th ed.). McGraw-Hill: Maidenhead.
- Park, K. M., & Park, H. (2015). Effects of self-esteem improvement program on self-esteem and peer attachment in elementary school children with observed problematic behaviors. *Asian nursing research*, 9(1), 53-59.
- Parker, J. G., & Asher, S. R. (1993). Friendship and friendship quality in middle childhood: Links with peer group acceptance and feelings of loneliness and social dissatisfaction. *Developmental psychology*, 29(4), 611.

- Patchin, J. W., & Hinduja, S. (2006). Bullies move beyond the schoolyard: A preliminary look at cyberbullying. *Youth violence and juvenile justice*, 4(2), 148-169.
- Petrocelli, J. V. (2003). Hierarchical multiple regression in counseling research: Common problems and possible remedies. *Measurement and evaluation in counseling and development*, 36(1), 9-22.
- Reynolds, C. R., & Richmond, B. O. (1978). What I think and feel: A revised measure of children's manifest anxiety. *Journal of abnormal child psychology*, 6(2), 271-280.
- Reynolds, C. R., & Richmond, B. O. (1985). *Revised children's manifest anxiety scale*. Los Angeles: Western Psychological Services.
- Roberts, J. E. (2006). Self-esteem from a clinical perspective. *Self-esteem issues and answers: A sourcebook of current perspectives*, 298-305.
- Robins, R. W., & Trzesniewski, K. H. (2005). Self-esteem development across the lifespan. *Current Directions in Psychological Science*, 14(3).
- Rosenberg, M. (1965). Rosenberg self-esteem scale (RSE). *Acceptance and commitment therapy. Measures package*, 61, 52
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.
- Rossi, A., Galderisi, S., Rocca, P., Bertolino, A., Rucci, P., Gibertoni, D., ... & Amodeo, G. (2017). Personal resources and depression in schizophrenia: the role of self-esteem, resilience and internalized stigma. *Psychiatry Research*, 256, 359-364.
- Rutter, M. (1999). Resilience concepts and findings: implications for family therapy. *Journal of family therapy*, 21(2), 119-144.

- Salmivalli, C., Kaukiainen, A., Kaistaniemi, L., & Lagerspetz, K. M. (1999). Self-evaluated self-esteem, peer-evaluated self-esteem, and defensive egotism as predictors of adolescents' participation in bullying situations. *Personality and Social Psychology Bulletin*, 25(10), 1268-1278.
- Salmon, G., James, A., & Smith, D. M. (1998). Bullying in schools: self reported anxiety, depression, and self esteem in secondary school children. *BMj*, 317(7163), 924-925.
- Sánchez, F. C., Romero, M. F., Navarro-Zaragoza, J., Ruiz-Cabello, A. L., Frantzisko, O. R., & Maldonado, A. L. (2016). Prevalence and patterns of traditional bullying victimization and cyber-teasing among college population in Spain. *BMC public health*, 16(1), 176.
- Slonje, R., Smith, P. K., & Frisén, A. (2013). The nature of cyberbullying, and strategies for prevention. *Computers in human behavior*, 29(1), 26-32.
- Smith, P. K., Madsen, K. C., & Moody, J. C. (1999). What causes the age decline in reports of being bullied at school? Towards a developmental analysis of risks of being bullied. *Educational Research*, 41(3), 267-285.
- Solberg, M. E., & Olweus, D. (2003). Prevalence estimation of school bullying with the Olweus Bully/Victim Questionnaire. *Aggressive behavior*, 29(3), 239-268.
- Sowislo, J. F., & Orth, U. (2013). Does low self-esteem predict depression and anxiety? A meta-analysis of longitudinal studies.
- Statistics Solutions. (2013). Data analysis plan: Bivariate (Pearson) Correlation [WWW Document]. Retrieved from <http://www.statisticssolutions.com/academic-solutions/member-resources/member-profile/data-analysis-plan-templates/data-analysis-plan-bivariate-pearson-correlation/>

- Stevens, J. P. (2002). *Applied Multivariate Statistics for the Social Sciences*. London: Lawrence Erlbaum Associates, Inc., Hillsdale, New Jersey.
- Streiner, D. L. (2003). Starting at the beginning: an introduction to coefficient alpha and internal consistency. *Journal of personality assessment*, 80(1), 99-103
- Tabachnick, B. G., & Fidell, L. S. (2006). *Using multivariate statistics* (5th ed.). Boston, Mass;London,: Allyn and Bacon.
- Tafarodi, R. W., & Milne, A. B. (2002). Decomposing global self-esteem. *Journal of personality*, 70(4), 443-484.
- Tafarodi, R. W., & Swann Jr, W. B. (1995). Self-liking and self-competence as dimensions of global self-esteem: initial validation of a measure. *Journal of personality assessment*, 65(2), 322-342.
- Tajfel, H., & Turner, J. C. (1979). An integrative theory of intergroup conflict. *The social psychology of intergroup relations*, 33(47), 74.
- Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International journal of medical education*, 2, 53.
- The GOV.UK (2017). Bullying at school. Retrieved 23 July, 2017, from <https://www.gov.uk/bullying-at-school/bullying-a-definition>
- The National Health Service (NHS). (2017). Retrieved 05 August, 2017, <http://www.nhs.uk/conditions/social-anxiety/Pages/Social-anxiety.aspx#children>
- Thomaes, S., Reijntjes, A., Orobio de Castro, B., Bushman, B. J., Poorthuis, A., & Telch, M. J. (2010). I Like Me If You Like Me: On the Interpersonal Modulation and Regulation of Preadolescents' State Self-Esteem. *Child development*, 81(3), 811-825.

- Tokunaga, R. S. (2010). Following you home from school: A critical review and synthesis of research on cyberbullying victimization. *Computers in human behavior*, 26(3), 277-287.
- Trzesniewski, K. H., Donnellan, M. B., Moffitt, T. E., Robins, R. W., Poulton, R., & Caspi, A. (2006). Low self-esteem during adolescence predicts poor health, criminal behavior, and limited economic prospects during adulthood. *Developmental psychology*, 42(2), 381.
- Tsaousis, I. (2016). The relationship of self-esteem to bullying perpetration and peer victimization among schoolchildren and adolescents: a meta-analytic review. *Aggression and violent behavior*, 31, 186-199.
- Tusaie, K., Puskar, K., & Sereika, S. M. (2007). A predictive and moderating model of psychosocial resilience in adolescents. *Journal of Nursing Scholarship*, 39(1), 54-60.
- Ungar, M., Russell, P., & Connelly, G. (2014). School-Based Interventions to Enhance the Resilience of Students. *Journal of Educational and Developmental Psychology*, 4(1).
- Valkenburg, P. M., Koutamanis, M., & Vossen, H. G. (2017). The concurrent and longitudinal relationships between adolescents' use of social network sites and their social self-esteem. *Computers in Human Behavior*, 76, 35-41.
- Van den Berg, P. A., Mond, J., Eisenberg, M., Ackard, D., & Neumark-Sztainer, D. (2010). The link between body dissatisfaction and self-esteem in adolescents: Similarities across gender, age, weight status, race/ethnicity, and socioeconomic status. *Journal of Adolescent Health*, 47(3), 290-296.

- Van Tuijl, L. A., de Jong, P. J., Sportel, B. E., de Hullu, E., & Nauta, M. H. (2014). Implicit and explicit self-esteem and their reciprocal relationship with symptoms of depression and Social Anxiety: a longitudinal study in adolescents. *Journal of behavior therapy and experimental psychiatry*, 45(1), 113-121.
- Veselska, Z., Geckova, A. M., Orosova, O., Gajdosova, B., van Dijk, J. P., & Reijneveld, S. A. (2009). Self-esteem and resilience: The connection with risky behavior among adolescents. *Addictive Behaviors*, 34(3), 287-291.
- Vignoles, V. L., Regalia, C., Manzi, C., Golledge, J., & Scabini, E. (2006). Beyond self-esteem: influence of multiple motives on identity construction. *Journal of personality and social psychology*, 90(2), 308.
- Wald, J., Taylor, S., Asmundson, G. J., Jang, K. L., & Stapleton, J. (2006). *Literature review of concepts: Psychological resiliency* (No. DRDC-CR-2006-073). BRITISH COLUMBIA UNIV VANCOUVER.
- Waldrup, A. M., Malcolm, K. T., & Jensen-Campbell, L. A. (2008). With a little help from your friends: The importance of high-quality friendships on early adolescent adjustment. *Social Development*, 17(4), 832-852.
- Wigfield, A., Eccles, J. S., Mac Iver, D., Reuman, D. A., & Midgley, C. (1991). Transitions during early adolescence: Changes in children's domain-specific self-perceptions and general self-esteem across the transition to junior high school. *Developmental psychology*, 27(4), 552
- Yoo, W., Mayberry, R., Bae, S., Singh, K., He, Q. P., & Lillard Jr, J. W. (2014). A study of effects of multicollinearity in the multivariable analysis. *International journal of applied science and technology*, 4(5), 9.

Appendices

Appendix A: Questionnaire in order: Age, Gender, Victimisation, Friendship Quality, Self-esteem, Social Anxiety, Resilience

Page 2: Part One

This part of the survey uses a table of questions, [view as separate questions instead?](#)

1. About You

	10	11	12	13	14	15	16
Age	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

This part of the survey uses a table of questions, [view as separate questions instead?](#)

a.

	Male	Female	Prefer Not to Say
Gender	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

This part of the survey uses a table of questions, [view as separate questions instead?](#)

	Never	Not Very Often	Sometimes	Lots of Times
How often in the last year has another child hit and kicked you to make you feel bad?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How often in the last year has another child called you nasty names to make you feel bad?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How often in the last year has another child left you out of games and things to make you feel bad?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How often in the last year has another child been mean to you in a text or online to make you feel bad?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How often in the last year has another child hit or kicked you and you felt bad but they didn't really mean to be nasty to you?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How often in the last year has another child called you nasty names and you felt bad but they didn't really mean to be nasty to you?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How often in the last year has another child left you out of games and things and you felt bad but they didn't really mean to be nasty to you?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How often in the last year has another child been mean to you in a text or online and you felt bad but they didn't really mean to be nasty to you?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Never	Not Very Often	Sometimes	Lots of Times
My friend and I spend all our free time together	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My friend thinks of fun things for us to do together	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My friend and I go to each other's houses after school and on weekends	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sometimes my friend and I just sit around and talk about things like school and things we like	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can get into fights with my friend	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My friend can bug me or annoy me even though I ask him/her not to	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My friend and I can argue a lot	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My friend and I disagree about many things	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Never	Not very often	Sometimes	Lots of Times
I am satisfied with myself right now	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel down on myself right now	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am proud of myself right now	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am dissatisfied with myself right now	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel good about who I am right now	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am disappointed in myself right now	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Totally true for me	quite a lot true for me	only a bit true for me	not at all true for me
Others seem to do things easier than I can	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that others do not like the way I do things	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel alone even when there are people with me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other people are happier than I am	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel someone will tell me I do things the wrong way	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is hard for me to keep my mind on schoolwork	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A lot of people are against me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	How much do you agree with the following statements?				
	Not true at all	Rarely true	True sometimes	True Often	True all the time
I am able to adapt to change	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can deal with whatever comes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I try to see the humorous side of problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coping with stress can strengthen me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I tend to bounce back after illness or hardship	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can achieve goals despite obstacles	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can stay focused under pressure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am not easily discouraged by failure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think of myself as a strong person	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can handle unpleasant feelings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Appendix B: Participant Information Sheet**Page 1: Information Sheet**

We would like to invite you to take part in a research project which will be for our University dissertation. We think you will be able to help us by increasing our awareness about social relationships and wellbeing of students within schools. We want to know about what you would do in certain situations, when interacting with your peers. We will be collecting this information in class. You will complete a 20-minute questionnaire on the computer, answering multiple choice questions. There is no need to copy anyone else because this is NOT a test and there are no right or wrong answers. Therefore, try to make sure that other people cannot see your answers.

The answers will provide us with a greater understanding of social relationships in schools and the impact your actions have on yourself and others, even when you are unaware. There are numerous schools taking part in this study, and we feel your class would be suitable candidates to also take part. We do not think the questions will upset you, however if you do feel affected by any of the questions, inform one of the researchers or your class teacher. If you do not feel comfortable with either of these, then you can contact your student support service. Alternatively, you can contact ChildLine (call 0800 1111 or visit: www.childline.org.uk where you can speak to someone helpful).

You do not have to take part if you do not wish to, and you can stop at any time without giving us a reason. You can simply just close the web browser and read quietly or get on with some work. If you think you don't want to answer some questions that is fine too. Remember, this is NOT a test. It is up to you how many questions you want to answer. If you do complete the questionnaire, then your answers will become part of our study. All answers are completely confidential. Your personal information will not be recorded, and all researchers or teachers will not be aware who has answered what questions.

Does anyone have any questions or concerns that they want to raise?

If you agree to taking part in this study, by completing the 20-minute questionnaire, you will be giving your consent to take part in the study.

If you would like further information then you can ask the researcher present

Appendix C: Email sent to schools

Dear [insert head teachers' full name]

I am a current student at the University of Chester, studying towards an MSc qualification in Family and Child Psychology. As part of my course, I am required to complete a research project, in which I intend to look at the social relationships and wellbeing of young people between the ages of 11-16. I am just enquiring whether there may be a possibility for me to collect this data from your students using a simple only questionnaire, taking around 15-20 minutes to complete.

The research will be fully ethically approved through the University, and will not record any personal information about students/the school. All questionnaire responses will be anonymous. A copy of the questionnaire can be provided for yourself to view should you wish.

I hope to hear from you soon,

Many thanks

[insert researcher's full name]

University of Chester

Appendix D: Participant Debrief**Thank you for taking part**

Our aim is to discover more information about social relationships and wellbeing of young people within schools. We would like to start by thanking you for taking part in our research by completing the questionnaire.

Again we would like to reiterate

- All of your information will remain anonymous and confidential and will not be seen by anyone else
- If you have felt any kind of discomfort when completing this questionnaire, then there are people available to meet and talk with you if you so wish; details are as follows:

Your own teachers and school support services**Child line:**

Call: [0800 1111](tel:08001111) or visit: www.childline.org.uk

Appendix E: Critical values table extracted from Pallant (2013)

'Critical values for evaluating Mahalanobis distance values' (Pallant, 2013)

Number of independent variables	Critical value	Number of independent variables	Critical value	Number of independent variables	Critical value
2	13.82	4	18.47	6	22.46
3	16.27	5	20.52	7	24.32

Source: extracted from Pallant, J. (2013). *SPSS Survival Manual* (5th ed.). McGraw-Hill: Maidenhead.

Appendix F: Ethical application form and committee comments

Staff / Office Use Only	DOPEC NUMBER: _____
Umbrella project DOPEC number (staff) _____	

AIF

APPLICANT SURNAME: Simpson

Please complete all questions by underlining the correct response to facilitate correct processing				
APPLICANT:	UG	<u>PGT</u>	PGR	STAFF
REVIEW PROCESS:	Accelerated / <u>Full</u>			
APPLICATION STATUS:	<u>NEW APPLICATION</u> , MAJOR AMENDMENT, RESUBMISSION			
APPLICATION FOR:	<u>DISSERTATION</u> , TEACHING, RESEARCH & PUBLICATION			
ATTENDENCE AT HEALTH & SAFETY BRIEFING:	<u>YES</u> / NO / NA			
INCLUSION OF RISK ASSESSMENT FORM:	YES / NO / <u>NA</u>			

<p>NOTES ON THE ROLE AND FUNCTION OF THE DEPARTMENT OF PSYCHOLOGY ETHICS COMMITTEE.</p> <ul style="list-style-type: none"> • All decisions of the committee are based on the application form and reviewers comments ONLY. Forms should be as detailed and clear as possible. Verbal discussions are not considered as part of the application or review process. • The review process strictly adheres to the University of Chester Research Governance Handbook and the BPS Code of Ethics. • The decision of the committee is final. If you are a UG, PGT or PGR student you should discuss the decision of the committee with your supervisor. If you are a member of staff you may contact the chair of the committee for further clarification.

Before completing the form researchers are expected to familiarise themselves with the regulatory codes and codes of conduct and ethics relevant to their areas of research, including those of relevant professional organisations and ensure that research which they propose is designed to comply with such codes.

Department of Psychology Ethical Approval for Research: Procedural Guidelines.

University of Chester Research Governance Handbook

http://ganymede2.chester.ac.uk/view.php?title_id=522471

BPS Code of Ethics

http://www.bps.org.uk/system/files/Public%20files/bps_code_of_ethics_2009.pdf

BPS Code of Human Research Ethics

http://www.bps.org.uk/sites/default/files/documents/code_of_human_research_ethics.pdf

BPS Guidelines for Internet-mediated Research

<http://www.bps.org.uk/system/files/Public%20files/inf206-guidelines-for-internet-mediated-research.pdf>

BPS Research Guidelines and Policy Documents

<http://www.bps.org.uk/publications/policy-and-guidelines/research-guidelines-policy-documents/research-guidelines-poli>

Any queries email: psychology_ethics@chester.ac.uk

CHECK LIST.

Please complete the form below indicating attached materials. Prior to submission supervisors must confirm that they have reviewed the application by completing the supervisors column.

<i>Notes: Students to indicate where information is found, supervisor to confirm by ticking green column</i>	<u>Supervisor confirmation</u>	<u>Information sheet</u>	<u>Letter</u>	<u>Email</u>	<u>Email info. page</u>	<u>Consent Form</u>	<u>PowerPoint</u>	<u>N/A</u>
Brief details about the purpose of the study	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Contact details for further information	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Explanation of how and why participant has been chosen	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Notification that materials/interviews are not diagnostic tools/therapy or used for staff review/development purposes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Explanation participation is voluntary	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Details of any incentives or compensation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Details of how consent will be obtained	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If research is observational, consent to being observed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Details of procedure so participants are informed about what to expect	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Details of time commitments expected	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Details of any stimuli used	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Explanation of right to withdraw and right to withdraw procedure	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Option for omitting questions participant does not wish to answer	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Procedure regarding partially completed questionnaires or interviews	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
With interviews, information regarding time limit for withdrawal	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Details of any advantages and benefits of taking part	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Details of any disadvantages and risks of taking part	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Information that data will be treated with full confidentiality and that, if published, those data will not be identifiable as theirs	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Debriefing details	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dissemination information	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Further information (relevant literature; support networks etc)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Supervisor Signature: *Mike Boulton*

Date: 6/4/17

**DEPARTMENT OF PSYCHOLOGY
APPLICATION TO DEPARTMENTAL
ETHICS COMMITTEE**



**University of
Chester**

**IN COMPLETING THE FORM UG & PGT STUDENTS PLEASE REFER TO YOUR
HANDBOOK**

Question 1: Working title of the study

Notes: The title should be a single sentence

Social relationships and wellbeing in high school students

Question 2: Applicant, name and contact details.

Notes: The primary applicant is the name of the person who has overall responsibility for the study. Include their appointment or position held and their qualifications. For studies where students and/or research assistants will undertake the research, the primary applicant is the student (UG, PGT, PGR) and supervisor is the co-applicant.

Hannah Simpson
Postgraduate Student (MSc Family and Child Psychology)
Bsc (Hons) Psychology Degree 2:1
1201366@chester.ac.uk

Question 3: Co-applicants

Notes: List the names of all researchers involved in the study. Include their appointment or position held and their qualifications.

Mike Boulton – Professor, PhD
R.Kirkham – co researcher, Psychology Degree
C.Breen – co researcher, Psychology Degree
M.Burns – co researcher, Psychology Degree
B.Pritchard – co researcher, Psychology Degree
J.Santos – co researcher, Psychology Degree

Question 4: What are the start and end dates of the study?

Notes: If exact dates are unavailable, explain why and give approximate dates.

04/2017 - 12/2017

Question 5: Is this project subject to external funding?

Notes: Please provide details of the funding body, grant application and PI.

No

Question 6: Briefly describe the purpose and rationale of the research

*Notes: In writing the rationale make sure that the research proposed is grounded in relevant literature, and the hypotheses emerge from recent research and are logically structured.
PGR / Staff if this application is for a funded project please attach any detailed research proposals as appropriate.
Maximum word length (300 words)*

Peer Victimization has been characterized as being the recipient of physical or non-physical forms of aggression and harassment by peers (Hirschtritt et al., 2015). This is an extremely common and persistent problem especially in adolescents (Hirschtritt et al., 2015). These physical and verbal attacks are some of the most common found in schools and its effects can often be detrimental for the individual, especially if this victimization is occurring continuously over an extended period of time (Olywells, 1993; Leymann, 1993).

In recent years the increase in Internet use has also caused an increase in Cyberbullying, especially through various social media sites and chat rooms (Vollink et al., 2012). Livingstone et al., (2011) found that 93% of children have access to the Internet at least once a week. 20% of these children also reported to have been a victim of harassment through the Internet. 15-20% of these children also reported having been made to feel uncomfortable or have been threatened through social media.

Bullying and Peer Victimization has been found to have serious negative effects on the individual, including feeling depressed, lonely, insecure, anxious and angry (Baker & Tanrikulu, 2010). It can also have negative effects on the child's development, lower self esteem, increase anxiety and increase suicidal thoughts as well as suicide attempts (Grills & Ollendick, 2002; Smith Madsen & Moody, 1999; Patchin & Hinduja, 2006).

Although the research into negative effects of bullying and peer victimization is overwhelming, there is also research to suggest that there are possible positive outcomes to peer victimization. Researchers have found that victims have higher friendship quality than non victims and those victims who did not have high friendship quality reported higher levels of loneliness, suggesting that friendships could be a protective factor for peer victimization. (Woods, Done & Kalsi, 2009; Bollmer, Milich, Harris & Maras, 2005).

However, majority of the current research seems to focus on the negative effects and there is a lack of understanding about possible positive effects, like for example, resilience. Therefore this research sets out to investigate both positive and negative effects of traditional and Cyberbullying.

Question 7: Describe the methods and procedures of the study

Notes: Attach any relevant material (questionnaires, supporting information etc.) as appendices and summarise them briefly here (e.g. Cognitive Failures Questionnaire: a standardised self-report measure on the frequency of everyday cognitive slips). Do not merely list the names of measures and/or their acronyms. Include information about any interventions, interview schedules, duration, order and frequency of assessments. It should be clear exactly what will happen to participants. If this is a media based study describe and list materials include links and sampling procedure. (500 words)

The study will collect self-report data from children between the ages of 11 and 16 using an online questionnaire. Prior to beginning the study, participants will be presented with the participant information sheet (Appendix A) highlighting the key aims of the study, the requirements of taking part and clear information regarding ethical issues. All participants will be made aware that their involvement in the study is optional, and that they do not have to take part if they do not wish. Data collection will take place in a computer room, with each child having a computer to access the questionnaire via the webpage link that will be provided.

The questionnaire (refer to appendix C) will be comprised of several sections, measuring victimisation, friendship quality, state self-esteem, perceived positive effects of bullying, social anxiety, resilience, and smartphone and social media usage. To measure victimisation, the Self-Report Victimization Scale (Boulton et al., 2008) will be used, assessing traditional bullying, cyberbullying and accidental bullying. Friendship quality will be measured using the Friendship Quality Scale using only the companionship and conflict sub-scales (Bukowski, Hoza & Boivin, 1998). Social anxiety will be measured with the social concerns/concentration sub-scale of the Revised Children's Manifest Anxiety Scale, a widely-used measure of various types of anxiety (RCMAS; Reynolds & Richmond, 1985). State self-esteem will be measured with a six-item measure of overall self-worth in the present moment (Thomaes et al., 2010). Resilience will be measured using a concise version of the Connor-Davidson Resilience Scale (CD-RISC; Connor & Davidson, 2003). Finally, select items from the Global Kids Online quantitative toolkit will be used to measure smartphone and social media usage, currently being used to gather cross-cultural data in relation to children and young people's online behaviour (Global Kids Online, 2016). There will also be questions assessing the possible positive effects of bullying. Simple demographic information will also be recorded, including gender, age and region.

The questionnaire (refer to appendix C) has been constructed using online software, Bristol Online Surveys to enable time and cost effective collection of data from a large pool of participants, which can be extracted into Microsoft Excel and SPSS for data analysis. The questionnaire will be made live upon receipt of ethical approval and will remain live until the project ends in December 2017.

Access to computer facilities will be arranged with the schools prior to data collection taking place, ensuring all participants are able to access the questionnaire quickly and easily. The class teacher will be present at all times during the study, removing the need for a DBS certificate. Participants will be given the opportunity to ask any questions, or for clarification of any items within the questionnaire throughout the data collection process. They will also be informed that they do not have to submit their responses should they decide not to. All submitted data will be kept confidentially in password protected documents only accessible to the research team.

Question 8: Has the person carrying out the study had previous experience of the procedures? If not, who will supervise that person?

Notes: Say who will be undertaking the procedures involved and what training and/or experience they have. If supervision is necessary, indicate who will provide it.

All researchers have administered questionnaires or have had experience taking part in questionnaire research as part of their undergraduate research projects.

The project will be supervised by Professor Mike Boulton

Question 9: What ethical issues does this study raise and what measures have been taken to address them?

Notes: Describe any discomfort or inconvenience that participants may experience. Include information about procedures that for some people could be physically stressful or might impact on the safety of participants, e.g. interviews, probing questions, noise levels, visual stimuli, equipment; or that for some people could be psychologically stressful, e.g. mood induction procedures, tasks with high failure rate. Discuss any issues of anonymity and confidentiality as they relate to your study, refer to ethics handbook and guidance notes at the end of the form. If animal based include ethical issues relating to observation.

Prior to completing the online questionnaire, individuals will be informed about the research through reading an information sheet, detailing the nature of the study and the ethical procedures which will be followed. Participants will consent to taking part (having gained consent from the school and /or parents, see questions 12-15) by completing the questionnaire. Identifiable information will not be recorded, and will therefore remain confidential. Participants' responses will remain anonymous.

Data collected will be stored on the Bristol Online Survey database which is password protected, thus only researchers will have access to this. Participants will complete the questionnaire online and so answers will not be seen by their peers, this should help ensure that all answers are completed honestly. Participants will be told through the information sheet that they have the right to withdraw at any point during the questionnaire; they are also told that they do not have to take part at all if they do not wish to, they can simply just leave the room or wait for others to complete the task. However, it will be made clear through the information sheet that once the questionnaire has been completed then participants will no longer be able to have their data set removed as all data will be kept anonymous.

As participants will be told that the nature of the study is to understand more about social relationships and wellbeing of the students, it is believed by the researchers that minimal psychological distress will be endured by participants (see question 14). All questionnaires have been used within prior research (see question 7 and appendix C) and so we have chosen items that measure our variables of interest.

Debrief for the participants will be given as part of the online session, places to receive further support and information will be provided if needed which include meeting with teachers and student support services (see appendix A) and Childline.

Question 10: Who will the participants be?

Notes: Describe the groups of participants that will be recruited and the principal eligibility criteria and ineligibility criteria. Make clear how many participants you plan to recruit into the study in total.

Participants will be pupils in high school between the ages of 11-16. We are aiming to receive approximately 600 completed questionnaires from across 6 schools throughout the North West of England, Wales and Gibraltar.

Question 11: Describe participant recruitment procedures for the study

Notes: Gives details of how potential participants will be identified or recruited. Include all advertising materials (social media messages, posters, emails, letters, verbal script etc.) as appendices and refer to them as appropriate. Describe any screening examinations. If it serves to explain the procedures better, include as an appendix a flow chart and refer to it.

On a convenient basis, contact will be made to head teachers of secondary schools across the North of England, Wales and Gibraltar via email (refer to appendix B). The recruitment of participants will be based on the head teacher's decision to allow us as researchers, to administer questionnaires in their school. The participants will be selected through an opportunity sample whereby those who are present in the class that day and those who choose to take part.

Question 12: Describe the procedures to obtain informed consent

*Notes: Describe when consent will be obtained. If consent is from **adult participants**, give details of who will take consent and how it will be done. If you plan to seek informed consent from **vulnerable groups** (e.g. people with learning difficulties, victims of crime), say how you will ensure that consent is voluntary and fully informed.*

*If you are recruiting **children or young adults** (aged under 18 years) specify the age-range of participants and describe the arrangements for seeking informed consent from a person with parental responsibility. If you intend to provide children under 16 with information about the study and seek agreement, outline how this process will vary according to their age and level of understanding.*

How long will you allow potential participants to decide whether or not to take part? What arrangements have been made for people who might not adequately understand verbal explanations or written information given in English, or who have special communication needs?

If you are not obtaining consent, explain why not.

The participants selected for this investigation will be 11-16 years of age. Prior to the study, informed consent will be given by a person acting in a position of loco parentis, this being the head teachers of each school. It will also be the head teacher's decision if parental consent is necessary. If so, informed consent will be administered to parents via letter or email that the school will produce.

Participants will be invited to open the link and read the information sheet before proceeding with the questionnaire. This highlights that anyone who doesn't not wish to take part can withdraw at any time up until the questionnaire is submitted (Refer to appendix A). Participants will be given the opportunity to ask any questions, however all necessary information will be on the information sheet. The participants will be made aware that by filling out the questionnaire, they are giving consent. They will also be told that if they change their mind once they have started the questionnaire, they will be able to withdraw with no explanation needed.

Question 13: Will consent be written?

Yes/No (delete as appropriate)

*Notes: If **yes**, include a consent form as an appendix. If **no**, describe and justify an alternative procedure (verbal, electronic etc.) in the space below.*

Guidance on how to draft Participant Information sheet and Consent form can be found on PS6001 Moodle space and in the Handbook.

As mentioned in question 12, informed consent from parents/carers/head teachers will be provided by the head teachers, in the form of an official email or letter if required. In addition, by completing the questionnaire the children have also consented to take part.

Question 14: What will participants be told about the study? Will any information on procedures or the purpose of study be withheld?

Notes: Include an Information Sheet that sets out the purpose of the study and what will be required of the participant as appendices and refer to it as appropriate. If any information is to be withheld, justify this decision. More than one Information Sheet may be necessary.

Participants will be told this study will be investigating social relationships in which bullying is a part of. No other information will be withheld from the participants as they will have read an information sheet and will be informed they will be answering a questionnaire for the purpose of research (See Appendix A)

Question 15: Will personally identifiable information be made available beyond the research team (e.g. report to organisation)?

Notes: If so, indicate to whom and describe how confidentiality and anonymity will be maintained at all stages.

No, all information will be kept anonymous. Head teachers will be offered the opportunity to read the final written report, so they are aware of the findings as a whole.

In order to maintain confidentiality and anonymity at all times No personally identifiable information of the participants will be recorded during the research. After completion the data will be stored on the Bristol Online Survey database before being transferred to SPSS, both of which are password protected and only researchers will have access to these.

Question 16: What payments, expenses or other benefits and inducements will participants receive?

Notes: Give details. If it is monetary say how much, how it will be paid and on what basis is the amount determined. Indicate RPS credits.

Participants will not receive payments, expenses or benefits, they will be told they are contributing to our research and that they may find this interesting.

Question 17: At the end of the study, what will participants be told about the investigation?

Notes: Give details of debriefings, ways of alleviating any distress that might be caused by the study and ways of dealing with any clinical problem that may arise relating to the focus of the study.

Debrief for the participants will be given at the end of the questionnaire, informing them of places to receive further support and information (see appendix D). They will be told to contact teachers or student support services should they experience any discomfort. Further support will be recommended such as Childline if participants wish to stay anonymous.

Question 18: What arrangements are there for data security during and after the study?

Notes: Digital data stored on a computer requires compliance with the Data Protection Act; indicate if you have discussed this with your supervisor and describe any special circumstances that have been identified from that discussion. Say who will have access to participants' personal data and for how long personal data will be stored or accessed after the study has ended.

Data collected will be stored on the Bristol Online Survey database which is password protected, thus only researchers will have access to this. Participants will complete the questionnaire online and so answers will not be seen by their peers, this should mean that all answers are completed honestly. The questionnaire will only be live up until the completion of this project in 12/2017.

Signatures of the study team (including date)

Notes: The primary applicant and all co-applicants must sign and date the form. Scanned or electronic signatures are acceptable.

Professor Mike Boulton – 04/04/2017

Hannah Simpson – 04/04/2017

Justine Santos – 04/04/2017

Megan Burns – 04/04/2017

Fern Beth Pritchard – 04/04/2017

Rachel Kirkham – 04/04/2017

Cara Breen – 04/04/2017

ETHICS COMMITTEE DATE: 20/4/17

CHAIRS COMMENTS:

☒ Read and address all reviewers comments

See supervisor re: comments

ACCEPTABLE

☐ Action: You may now commence with data collection subject to approval from any relevant external agencies.

DATA COLLECTION IS NOT PERMISSABLE UNDER THESE CONDITIONS

☒ ACCEPTABLE SUBJECT TO SUBMISSION OF AMENDMENT FORM

☒ Acceptable subject to conditions listed by chair. Discuss conditions highlighted with supervisor and submit ethics application amendment form direct to office.

☐ Acceptable subject to conditions listed by chair: Submit ethics application amendment form direct to office.

ACCEPTABLE SUBJECT TO CONDITIONS LISTED BY CHAIR:

☐ Action: Resubmit application for full review ensuring you have completed section B

REVISE AND RESUBMIT:

☐ Action: Resubmit application for full review ensuring you have completed section B

SIGNATURE: 



University of
Chester

**DEPARTMENT OF PSYCHOLOGY
ETHICS REVIEW FORM**

A) Applicant and submission details

Name of applicant: Mike Boulton plus students: R.Kirkham, C.Breen, M.Burns,
B.Pritchard, J.Santos

Project title: Social relationships and wellbeing in high school students

Applicant status: ☐ UG ☐ PGT ☐ PGR ☒ Staff

If you are the applicant's supervisor, have you discussed ethical issues with the applicant?

- ☐ Yes, the applicant is an UG/PGT student and I wish to send the application for accelerated student review.
☐ Yes, the applicant is a UG/PGT student and I wish to send the application for full review.
☐ Yes, the applicant is a PGR student and I wish to send the application for full review.
☐ No → Comments:

B) Review of application

1. Has the applicant signed and dated the form?

- a) ☐ Yes ☐ No → Return to applicant for signature before continuing with review process.

2. What is the submission type?

- a) ☒ First submission to this or any other committee
- b) ☐ Resubmission of a rejected application by this committee
- Is there a summary of the requirements of the committee? Is the original application attached?: ☐ Yes ☐ No → Return to applicant for full details
- c) ☐ Revised submission intended to replace an application approved by this committee
- Is the original application attached?: ☐ Yes ☐ No → Return to applicant for full details
- d) ☐ First submission to this committee; has been submitted to another committee.
- Is the original application attached? ☐ Yes ☐ No → Return to applicant for full details

3. Research Plan and Methodology

- a) Is the study well formulated in terms of drawing on the relevant literature and is it methodologically, analytically and scientifically sound?
☒ Yes ☐ No Comments: **Important note** I was informed that staff 'umbrella' application and all student applications were identical and this seemed to be the case. I have therefore done ONE review for all.

- b) Are the timescales provided appropriate?
☐ Yes ☐ No Comments: The dates given run to Dec but I presume that data collection would need to be completed within the school Summer term – it would be too late to collect data in the first term of next academic year (although I guess term dates may be different again in Gibraltar?). This means there is quite a narrow window of opportunity for data collection.

- c) Are there contingency details?

☐ Yes ☒ No Comments: Clearly, if schools access cannot be obtained, a different (but potentially related) study would need to be undertaken – and ethical approval would be needed for this.

d) Is there consideration of how to minimise, manage and monitor issues of distress and harm, however minor?

☐ Yes ☐ No Comments: I think that wording in info sheet 'We do not think the questions are distressing' is ambiguous – the questions do ask about distressing things – and should be changed.

e) Are appropriate debrief details provided?

☐ Yes ☐ No Comments: Information is given about sources of help at the start of the questionnaire and there is some information about sources of help at the end of the questionnaire as well as the research team's e-mail addresses BUT – the ps can only access this information through BOS – how will they save and use this information? I am concerned that information on sources of support needs to be provided to these children in ways that they can keep and use afterwards. On another issue, I think the wording of the debrief which states that ps can get a report 'once the work has been graded' may be ambiguous – the children may think this means that their own responses are being 'graded' in some way. The research team should instead give a DATE after which a short report on the study findings will be available.

f) Are appropriate details regarding the use and management of deception provided?

☐ Yes ☐ No ☒ N/A Comments:

4. Sample size, participants and recruitment

a) Has the applicant provided appropriate details of the sample and how it will be identified?

☒ Yes ☐ No Comments: Data collection is proposed to include a school or schools in Gibraltar. The applicants (ie the student planning to recruit in Gibraltar and supervisor) will need to submit some evidence that the research will be in keeping with local legal and ethical requirements.

b) Has the applicant provided appropriate details of where the research will take place, including issues regarding permission and appropriate health and safety information? Is the necessary documentation attached?

☐ Yes ☐ No Comments: All applicants will need to submit to the ethics committee copies of letters/ mails approving access prior to beginning data collection.

If the applicant is a taught student and they did not attend the mandatory H&S briefing have they provided appropriate evidence that they have full and satisfactory awareness of the relevant health and safety protocol?

☐ Yes ☐ No ☐ N/A Comments:

c) Has the applicant provided appropriate details and attached the necessary documentation concerning their recruitment procedures? In particular, have they appropriately considered how to minimise, manage and monitor issues of distress and harm?

☐ Yes ☐ No Comments: Typo in e-mail to schools – 'only' instead of 'online'

Are there appropriate RPS credits? ☐ Yes ☐ No ☐ N/A

d) Has the applicant provided appropriate details and attached the necessary documentation concerning the information made available to participants? In particular, are there appropriate considerations if using internet mediated research?

☐ Yes ☐ No Comments:

Is there appropriate consideration of how to manage issues of distress and harm?

☐ Yes ☐ No Comments:

Are there appropriate details regarding informed consent?

☐ Yes ☐ No Comments: The information sheet needs to make clear to ps exactly how they can choose not to take part or withdraw from the study. I presume that this would simply be that they close the web browser but I think this needs to be stated. It especially needs to be clear to the child how they can withdraw part-way through in such a way that any questions they have answered to that point are not seen or used by anyone. I am also concerned that a child may feel that they will be conspicuous if they choose not to take part or to withdraw near the start of the questionnaire. How would you envisage in working, if a child decided not to take part? Could they, for instance, stay online and just browse the web?

Are there appropriate details regarding anonymity and confidentiality?

☒ Yes ☐ No Comments:

Are there appropriate details regarding withdrawal procedures?

☐ Yes ☐ No Comments: see above

e) Are there appropriate details regarding time commitment from participants?

☒ Yes ☐ No Comments:

f) Are there appropriate details regarding compensation arrangements?

☒ Yes ☐ No Comments:

g) If using social media for recruitment have details been provided on

a. Proposed sites and social groups?

☐ Yes ☐ No Comments:

b. Social media messages?

☐ Yes ☐ No Comments:

5. Data Collection and Analysis

a) Has the applicant provided full procedural details and attached the necessary documentation concerning data collection procedures?

☒ Yes ☐ No Comments: I note that different schools may make different requirements on practicalities of recruitment and questionnaire completion. Any divergence from what is described here would require submission of a minor amendment form.

6. Data Analysis

a) Has the applicant provided appropriate details concerning data analysis?

☐ Yes ☐ No Comments:

7. Data protection and Storage

a) Has the applicant provided appropriate details concerning data protection and storage? Have security issues been properly considered?

☐ Yes ☐ No Comments: If data is to be amalgamated and used in a publication, need information in umbrella application on data storage etc.

8. Dissemination

a) Has the applicant provided appropriate details concerning research dissemination?

☒ Yes ☐ No Comments:

Are there appropriate details regarding how privacy and confidentiality will be maintained during dissemination?

- ☐ Yes ☐ No Comments: I presume the number of schools in Gibraltar is quite small so presentation of data will need to avoid potential identification
Are there appropriate details regarding any specific considerations about sharing the research?
☐ Yes ☐ No Comments:

General comments: I have highlighted some points which I suggest need further reflection or information. On the whole, this is a strong and careful application. I suggest that outline approval might be given to allow the students to proceed to contact schools about access. In the meantime, suggest submission of amendment forms to address specific issues raised for approval. Finally, confirmation letter / e-mails granting access will need to be submitted to committee prior to commencement of data collection.

Review status

- ☐ Chair's action
☒ Staff/PGR for full review ☐ UG/PGT for full review
☒ Work with external agencies ☐ Work with vulnerable participants
☐ Other issues/concerns

NAME: Ros Bramwell

- ☐ Supervisor ☐ Supervisor/Reviewer 1 ☒ Reviewer 1 ☐ Reviewer 2

DATE: 18/3/17



University of
Chester

**DEPARTMENT OF PSYCHOLOGY
ETHICS REVIEW FORM**

A) Applicant and submission details

Name of applicant: Mike Boulton, R Kirkham, C Breen, M Burns, B Pritchard, J Santos, H Simpson

Project title: Social relationships and high school well-being

Applicant status: ☐ UG ☐ PGT ☐ PGR ☒ Staff

If you are the applicant's supervisor, have you discussed ethical issues with the applicant?

- ☐ Yes, the applicant is an UG/PGT student and I wish to send the application for accelerated student review.
☐ Yes, the applicant is a UG/PGT student and I wish to send the application for full review.
☐ Yes, the applicant is a PGR student and I wish to send the application for full review.
☐ No → Comments:

B) Review of application

1. Has the applicant signed and dated the form?

- a) ☒ Yes ☐ No → Return to applicant for signature before continuing with review process.

2. What is the submission type?

- a) ☒ First submission to this or any other committee
- b) ☐ Resubmission of a rejected application by this committee
- Is there a summary of the requirements of the committee? Is the original application attached?: ☐ Yes ☐ No → Return to applicant for full details
- c) ☐ Revised submission intended to replace an application approved by this committee
- Is the original application attached?: ☐ Yes ☐ No → Return to applicant for full details
- d) ☐ First submission to this committee; has been submitted to another committee.
- Is the original application attached? ☐ Yes ☐ No → Return to applicant for full details

3. Research Plan and Methodology

- a) Is the study well formulated in terms of drawing on the relevant literature and is it methodologically, analytically and scientifically sound?
☒ Yes ☐ No Comments:
- b) Are the timescales provided appropriate?
☐ Yes ☒ No Comments: If Masters students are involved why is the final date stated as December when they submit in September – clarification needed
- c) Are there contingency details?
☐ Yes ☒ No Comments:
- d) Is there consideration of how to minimise, manage and monitor issues of distress and harm, however minor?

☐ Yes ☐ No Comments: *Click here to enter text.*

e) Are appropriate debrief details provided?

☐ Yes ☐ No Comments:

f) Are appropriate details regarding the use and management of deception provided?

☐ Yes ☐ No ☐ N/A Comments:

4. Sample size, participants and recruitment

a) Has the applicant provided appropriate details of the sample and how it will be identified?

☐ Yes ☒ No Comments: Permission from schools needed, presumably these are established links of Prof. Boulton? Details needed re: Gibraltar.

b) Has the applicant provided appropriate details of where the research will take place, including issues regarding permission and appropriate health and safety information? Is the necessary documentation attached?

☐ Yes ☒ No Comments:

If the applicant is a taught student and they did not attend the mandatory H&S briefing have they provided appropriate evidence that they have full and satisfactory awareness of the relevant health and safety protocol?

☐ Yes ☐ No ☐ N/A Comments: Supervisor to comment

c) Has the applicant provided appropriate details and attached the necessary documentation concerning their recruitment procedures? In particular, have they appropriately considered how to minimise, manage and monitor issues of distress and harm?

☐ Yes ☒ No Comments: Are the researchers going to be present in the schools or is this all online? How will BPS standards be maintained?

Are there appropriate RPS credits? ☐ Yes ☐ No ☐ N/A

d) Has the applicant provided appropriate details and attached the necessary documentation concerning the information made available to participants? In particular, are there appropriate considerations if using internet mediated research?

☒ Yes ☐ No Comments: Note that the info sheet contains one of the student's names

and not Prof Boulton's.

Is there appropriate consideration of how to manage issues of distress and harm?

☒ Yes ☐ No Comments:

Are there appropriate details regarding informed consent?

☒ Yes ☐ No Comments:

Are there appropriate details regarding anonymity and confidentiality?

☒ Yes ☐ No Comments:

Are there appropriate details regarding withdrawal procedures?

☒ Yes ☐ No Comments:

e) Are there appropriate details regarding time commitment from participants?

☒ Yes ☐ No Comments:

f) Are there appropriate details regarding compensation arrangements?

☒ Yes ☐ No Comments:

g) If using social media for recruitment have details been provided on

a. Proposed sites and social groups?

☐ Yes ☐ No Comments:

b. Social media messages?

☐ Yes ☐ No Comments:

5. Data Collection and Analysis

a) Has the applicant provided full procedural details and attached the necessary documentation concerning data collection procedures?

☐ Yes ☐ No Comments: Details needed – how do the students collect the data and distribute between them?

6. Data Analysis

a) Has the applicant provided appropriate details concerning data analysis?

☐ Yes ☒ No Comments: What variables are being analyzed by the students?

7. Data protection and Storage

a) Has the applicant provided appropriate details concerning data protection and storage? Have security issues been properly considered?

☒ Yes ☐ No Comments:

8. Dissemination

a) Has the applicant provided appropriate details concerning research dissemination?

☒ Yes ☐ No Comments:

Are there appropriate details regarding how privacy and confidentiality will be maintained during dissemination?

☒ Yes ☐ No Comments:

Are there appropriate details regarding any specific considerations about sharing the research?

☒ Yes ☐ No Comments:

General comments: Generally fine although it is not clear what each individual student is doing. Also unable to read through questionnaire and any documentation after as it freezes the screen.

Review status

☐ Chair's action

☐ Staff/PGR for full review

☐ UG/PGT for full review

☒ Work with external agencies

☐ Work with vulnerable participants

☐ Other issues/concerns

NAME: Nicola Davies

☐ Supervisor ☐ Supervisor/Reviewer 1 ☐ Reviewer 1 ☒ Reviewer 2

DATE: 11.4.17

Appendix G: Ethical amendment form and committee comments

University of
ChesterUNIVERSITY OF CHESTER, DEPARTMENT OF PSYCHOLOGY
APPLICATION FOR ETHICAL APPROVAL AMENDMENT FORM

A) Applicant and personnel

Applicant: *Hannah Simpson*Project title: *Social relationships and wellbeing in school students*Applicant status: ☐ Staff → Go to Section B ☐ PGR ☐ Undergraduate ☒ Postgraduate taughtSupervisor: *Mike Boulton*

B) Declaration

1. ☒ I have submitted an application for ethical approval to the Department of Psychology Ethics Committee and I am required to make the following amendments to my application.
List the recommendations of the committee. *Reviewer 1* 1. Dates online survey is open.
RESPONSE. This online survey will be located on Bristol Online Survey. For the students collecting data, it will be open until the end of the school year in July (dates vary from school to school) so that they can collect data in time for their dissertations. Ages of students we wish to collect data from will be extended to 10-16 years old, this is so we have a greater access to students due to limited time left in the academic year. The survey will remain open until December 2017 so our supervisor will be able to collect more data in order to support possible future publication. 2. Wording on Information Sheet.
RESPONSE. We have changed the wording to, "We do not think the questions will upset you.....". 3. Sources of support. RESPONSE. I removed Professor Mike Boulton's email address as this is inappropriate to provide to school students. It is important to note that it is the school's responsibility, as part of its legal duty of care, to ensure that all pupils are aware of sources of support should they feel they are in danger or are distressed. All researchers can do is to remind pupils of some of those sources of support. It is not appropriate for us to provide this information to pupils individually. Mike Boulton has never done this in any previous study and has never been asked to do so by any member of school staff. The statement that informs participants that a report will be made available has been deleted. 4. Data collection in Gibraltar. RESPONSE. Data will only be collected in the UK. 5. How participants can withdraw. RESPONSE: The information Sheet now invites participants who want to withdraw as follows, "If you do not want to take part or want to stop part way through, please simply close the survey/browser and read quietly or get on with some work". 6. Data storage. RESPONSE. All data at all times will be stored on password protected computers AND data files will have no personal information (names) as none will be collected. 7. Permission from schools. RESPONSE. I will submit consent from schools (confirmation letter/email) once this has been received and submit this to the Ethics Committee prior to data collection. Reviewer 2. 8. Presence of researchers. RESPONSE. I will be there when data are being collected. 9. Student individual projects. RESPONSE. The variables I wish to analyse in my individual report will be Self-esteem, Friendship quality, victimization, perceived positive effects, social anxiety, resilience and bullying 10. Distributing data to students. RESPONSE. Mike Boulton will produce a unique data set for each student to analyze by randomly deleting a small number of data points from the overall data file.

HSMB310517

COMMITTEE COMMENTS:


☒ **ACCEPTABLE:** You may now commence with data collection subject to approval from any relevant external agencies.

DATA COLLECTION IS NOT PERMISSABLE UNDER THESE CONDITIONS

☐ **ACCEPTABLE SUBJECT TO SUBMISSION OF FURTHER AMENDMENT FORM.**

☐ Acceptable subject to conditions listed by chair. Discuss conditions highlighted with supervisor and submit ethics application amendment form direct to office.

☐ Acceptable subject to conditions listed by chair: Submit ethics application amendment form direct to office.

Signed:**Date:** Click here to enter a date.

2/15/17

Appendix H: CD Rom – containing a copy of the full dissertation and original data set and SPSS output